EDUCATIONAL REVIEW

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I

COLLEGE STUDIES AND PROFESSIONAL TRAINING

A STATISTICAL STUDY IN HARVARD UNIVERSITY

Educators are proverbially conservative, and it is only in comparatively recent times they have turned to the experimental methods of science as a substitute for deductive reasoning based upon hypotheses. The experiments have dealt in great part with the most pregnant of all educational problems —the question how far an aptitude acquired in one field can be transferred to another. The upshot of many experiments made of late years by a number of independent observers would appear to be: that, in so far as the acquired aptitude depends upon familiarity with the subject-matter, it can be transferred little, if at all; that, in so far as it rests upon methods of thought, in other words, upon mental processes, it can be transferred to a considerable extent wherever the same methods are applicable; and finally that, in so far as it is based upon general principles of work, or what is perhaps the same thing, upon a general moral attitude, upon such qualities as diligence, persistence, and intensity of effort, it can be transferred almost indefinitely.

Now we do not know to what extent each of these three elements enters as a factor in any continuous course of study, or in what way their relative importance may vary at different stages of maturity. The experiments have been made, for the

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most part, with school children, and it may be that young men and women are more capable than children of applying in a new field methods of thought acquired in an old one. The experiments have been made also—and very properly—with a view of isolating particular aptitudes, and it may be that in the more complex pursuits of higher education, where many methods of thought are employed, and perhaps a number of aptitudes developed, the transferability becomes greater. This is, indeed, what we call resourcefulness, and has been supposed to be one of the chief benefits of a broad education.

Moreover, the experiments have covered very brief periods, often not more than a couple of weeks, and it may well be that in so short a time methods of thought are acquired little, and a general moral attitude still less, as compared with a familiarity with the subject-matter. If so, the last of those elements would be given an exaggerated prominence. If experiment should show that a boy who played baseball or tennis for a fortnight gained nothing in ability to row a boat, it would not follow that the general dexterity and the physical and nervous vigor he would acquire by playing those games for several years would not give him a vast advantage in rowing over a boy who, during all that time, has taken no strenuous exercise at all. Nor does it follow that, altho when first placed in a boat he might be very inferior to a trained oarsman, he might not with a little practise improve rapidly until the difference had almost, if not quite, disappeared. Education can never be made fully an experimental science, for highly instructive as the experiments are, they can not be continued long enough to test thoroly the results of different curriculums. We can not, merely in order to see what the consequences will be, subject boys to a course of study covering several years, unless we believe that it is the best for them. Except for experiments, therefore, too brief to have a lasting effect upon the pupil, we are confined to observing the results of various types of education adopted, not for experimental objects, but because they are supposed to be good for the student.

Fortunately, in the case of our colleges we have in America a great variety of curriculums chosen by the students themselves, and it would seem that some light may be thrown upon these problems by a careful examination of the different courses pursued by undergraduates. A difficulty presents itself, however, in measuring the results. Archimedes declared that if he had a lever long enough, and a fixt point to rest it on, he could move the world. In this case it is not easy to find the fixt point. Statistics have been compiled on several occasions to show the relation between rank in college, and success in life, the success in life being usually measured either by the appearance of the names of the graduates in *Who's who in America,* or by the estimates of classmates and others. But the first of these tests gives too much weight to purely literary or scholastic qualities, the latter to a prominence often due in great part to wealth acquired by inheritance or marriage. Neither of them is, therefore, an accurate criterion of personal achievement. For this purpose the rank attained in a professional school after graduating from college has great value. It is not, indeed, a measure of ultimate success in life. It is by no means remote enough from college for that; but it has, at least, the merit of being a fairly accurate test of capacity so far as it goes.

In applying, however, any method of determining the relation between elective college studies and subsequent achievement, we must beware of assuming that the results are necessarily a consequence of the college work, for there are two factors in the problem, two independent variables in the equation; one of them the value of the college work in training the mind, the other the selective process whereby men of different tastes and abilities are drawn to elect the subjects for which they have a natural aptitude. If, therefore, the men who pursue certain subjects, or who attain high marks in them, have a better rank in the professional school than their comrades, it may be because the study of those subjects, or the effort put forth to obtain the marks, has fitted them in a peculiar degree for the professional work; or it may be that the men are impelled to choose those subjects, or to work

hard, by the very qualities which would insure proficiency in the professional school whatever their college training had been; or again these two factors may be combined in unknown proportions. Now it is clearly important to separate the effects of the two factors, if possible, so that one of them can be measured by itself; and this is in fact done where the result is negative. If the men, for example, who have pursued quite different subjects in college do equally well in the professional school, it proves that the training given by one of those subjects is not distinctively superior to that given by another, for there is obviously no selective factor at work which would counterbalance any such superiority. This is one of the cases where a negative result is more decisive than a positive one. If, on the other hand, the result is positive, and college work in any subject, or of any grade, is followed by a peculiarly high average rank in the professional school, we must have the presence of these two factors constantly in mind, and try to contrive some other test which will eliminate or reduce the effect of one of them; we must seek another equation between the two independent variables.

Harvard University is singularly rich in material for determining the relation of college studies to the work of the professional schools, because nowhere in the world have so large a body of undergraduates been so free, for so long a period, as in Harvard College to study whatever they chose, and to make any combination of courses they pleased. With the exception of one required course in English, and sometimes one in another modern language, the election of courses has been almost wholly free for a quarter of a century, and in fact the variety of combinations made has been almost limitless. Moreover, the Law and Medical Schools have contained a large number of graduates of Harvard College, and this is essential for a fair comparison of the results, because there is little use in comparing men who have studied, let us say, history in our college with those who have studied science in another, unless we can assume, what is rarely true, that the quality of students and the standards of scholarship in the two colleges are the same. The necessity for such a limita-

tion upon the field of inquiry is brought out clearly by a fact which appeared in compiling these statistics. There existed at one time in the Lawrence Scientific School of Harvard University a course in anatomy and physiology, supposed to be a good preparation for the study of medicine; but the few bachelors of science in this course who entered the medical school did so much less well than the bachelors of arts from the college that in the following computations they have been omitted entirely. To have included them would have reduced the average grade in the school of men who had taken scientific courses in their undergraduate days, and thus tended to ascribe to that subject an inferiority due in reality to other causes.

The statistics here presented cover, therefore, only bachelors of arts of Harvard College who graduated afterwards from the Harvard Law and Medical Schools, and they comprize only men who took twelve courses, or nearly three years' work, in the college.[1] Both of the professional schools confer ordinary and *cum laude* degrees, and these have been used as the test of excellence, altho, as we shall see, the standard of the *cum laude* differs greatly in the two schools. The statistics for the law school cover the twenty years from 1891 to 1910 inclusive, and as the course in the school was three years, and in the college four, this goes back to the men entering the latter in 1884, about the time that the elective system bore full fruit. For the medical school, the figures cover the sixteen years, from 1895 onward, because for several years before that time the *cum laude* was given only to men who

[1] To include men spending only a year or two in the college would vitiate the basis of comparison as regards both the subjects pursued and the rank attained. Six courses in one field out of eight or ten are a very different thing from six courses out of sixteen or seventeen. Moreover the *cum laude* in college was given in part upon the number of high marks in courses, and hence a student who spent only a short time there, altho an excellent scholar, could rarely win it.

The figures given in this paper differ slightly from those in the *Harvard Graduates' Magazine* for December, 1910, partly on account of the correction of errors, but chiefly because of degrees in the professional schools granted after the normal year of graduation by reason of a failure to complete the work, or pay the fees, at the proper time. The figures given here accord with the last quinquennial catalog.

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remained in the school four years, those who graduated in three years receiving a plain degree no matter how high their grade.

It may be well to add that the subjects pursued in college are divided, for the purpose of this study, into the four groups established for the new regulations on the choice of electives: the first group containing language, literature, fine arts, and music; the second, the natural sciences; the third, history, economics, and government; the fourth, philosophy and mathematics. Statistics have been compiled of the students who took in college six or more full courses in any one of these groups, and the proportion in each case who achieved a *cum laude* in the professional schools.[2]

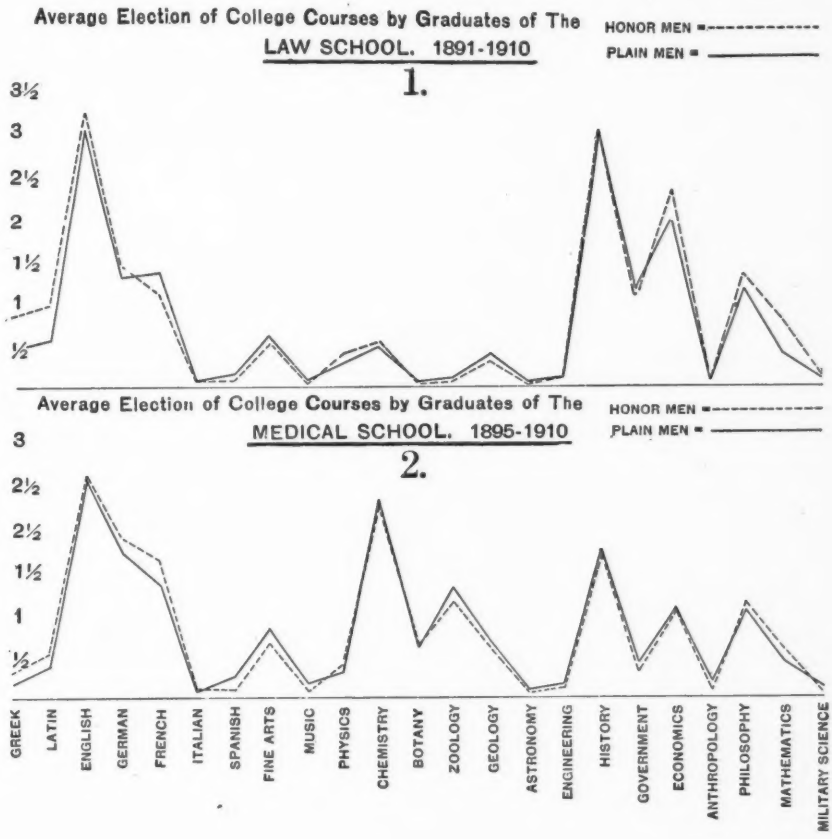
But before examining them, it is well to consider the average choice of subjects in college by the men who afterwards graduated from those schools. They are shown on diagrams 1 and 2.[3] The chief differences to be noted between the future lawyers and physicians are that the former took on the average a little more classics, much more history, government, and economics, less German, and far less natural science. These differences are almost equally marked among the men who obtained a high rank in the professional schools, and those who did not; for in the diagrams the elections of the men who won a *cum laude* in the school are indicated by dotted lines, the elections of the rest being shown by the plain lines, and it will be observed the two kind of lines are remarkably close together. The most notable departures are the slightly larger amount of classics and mathematics taken by the future *cum laude* men, and in fact the other men showed, as might be expected, a trifle more tendency thruout to select the subjects reputed less difficult.

To return to the statistics of the students who took in

[2] The tables give the number of cases of elections of six or more courses in one group, not the number of men who elected them. One man may not have taken six courses in any group, while others may have taken six courses in more than one group, so that the number of cases and the number of men are not identical.

[3] Subjects in which the average was less than three-tenths of a course are omitted altogether.

college six or more courses in any one of the four groups of studies. These are displayed graphically in diagrams 3 and 4. The first column at the left of diagram 3 indicates, for each of the four groups, the number of cases where a man took six or more courses in one group, and did not win a *cum laude* in the law school. The lowest division, with the vertical



lines, represents literature and language; the second, which is white, natural science; the next above, with horizonal lines, history and political science; the uppermost division, with dots, philosophy and mathematics. The second column indicates in the same way the number of cases where a man took six or more courses in one group, and obtained a *cum laude* in the law school. An inspection of these two columns shows at a glance that a little less than one-fifth of the

graduates of Harvard College who entered the law school won a *cum laude* there, and that this proportion is nearly the same for each group where the numbers are large enough to be decisive; the figures for the four groups being as follows:

	plain	*cum laude*
I (Literature and language) . . .	801	180 or 18.4%
II (Natural science)	19	3 " 13.6%
III (History, political science) . .	627	129 " 17.1%
IV (Philosophy, mathematics) . .	8	11 " 57.9%

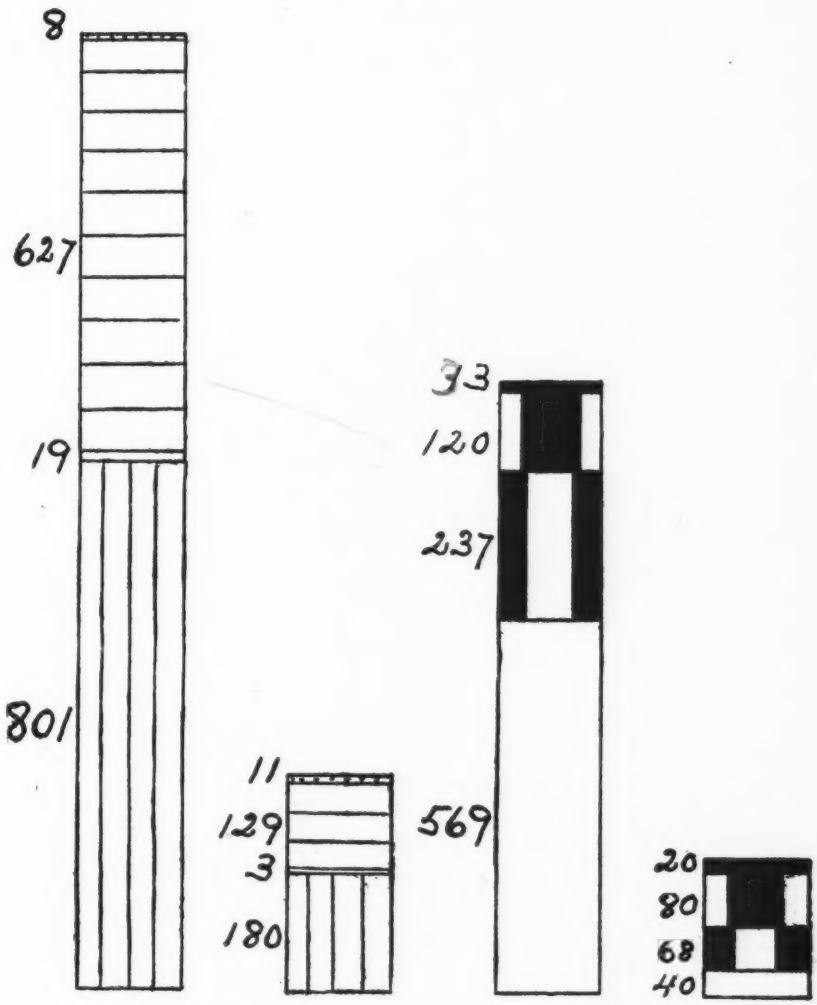
The only notable departure from the normal is in the small fourth group, and this is due to the students of mathematics —a fact to which we shall return later. But for the moment the thing to be observed is that, save in the case of mathematics, the second column is an almost exact miniature of the first; or in other words, that one subject does not seem to be a markedly better preparation for the study of law than another.

Contrary to current opinion, the same fact appears not less clearly from the statistics for the medical school. The comparison in that case is, indeed, more striking, both because the selection of studies in college was more evenly distributed among the four groups, and because the *cum laude* is given more freely so that the two columns are nearly of the same size. The first two columns in diagram 4 are, indeed, almost counterparts of each other, the figures for the four groups being as follows:

	plain	*cum laude*
I (Literature, language)	145	166 or 53.4%
II (Natural science)	75	81 " 51.9%
III (History, political science) . .	30	20 " 44.4%
IV (Philosophy, mathematics) . .	6	7 " 53.8%

The proportions are, on the whole, singularly even in all the groups, and the numbers would seem large enough to prove that natural science in college is certainly not a markedly better preparation for the study of medicine than other sub-

LAW SCHOOL. 1891-1910
Scale=320 to an inch
3.

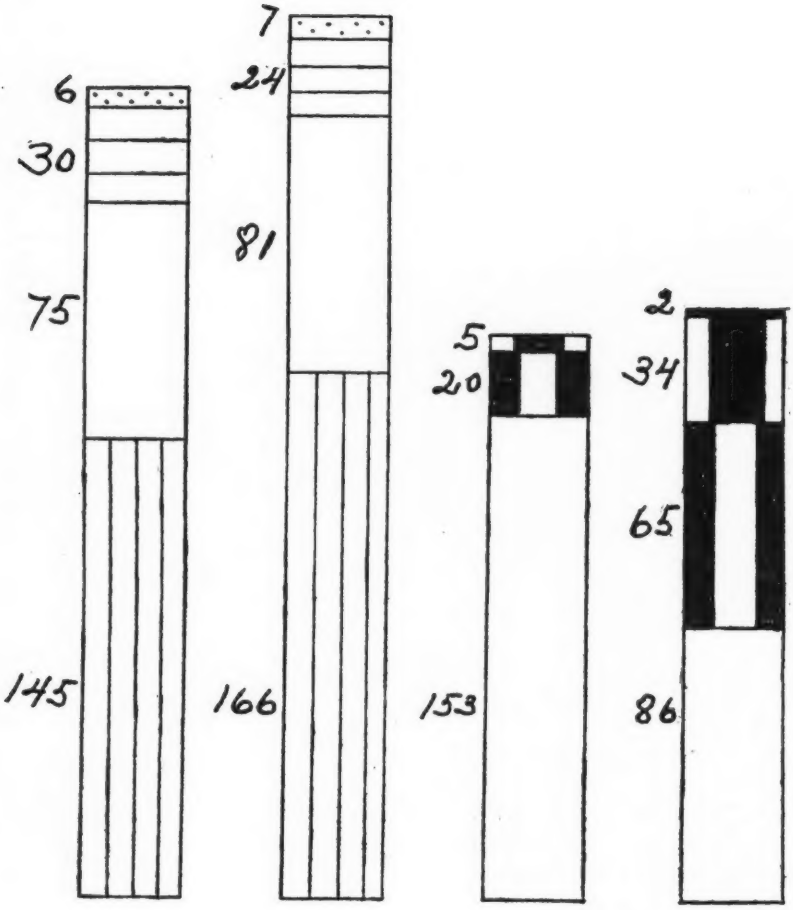


Subjects in College

Rank in College

MEDICAL SCHOOL. 1895-1910
Scale = 64 to an inch

4.



jects. This is not, of course, the common view of medical professors, but the reason for that may not be far to seek. The young man who has acquired some familiarity with natural science and the use of instruments has, no doubt, an initial advantage in the study of medicine, and is much easier to teach at the outset. Figures compiled for a single class at the Harvard Medical School three years ago showed that excellence in the first year courses in anatomy and histology was in proportion to the amount of biology studied in college; and this is confirmed by more extensive statistics covering the whole period of sixteen years. It appears that the men who had taken in college ten or more courses in natural science had a better average rank in the first year at the medical school than those who had taken six or more, and less than ten, such courses, while these in turn stood better than the men who had taken less than three such courses.[4] But that the initial advantage was soon overcome in the course of professional study is shown, not only by the fact that the men who had devoted themselves to other subjects in college had, at the end of the four years in the school, as large a proportion of degrees *cum laude* as those who had pursued natural science, but also by the fact that whereas of the men who had taken in college six or more, and less than ten, courses in that subject, 54.1 per cent. obtained a *cum laude,* of the twenty-three men who had taken ten or more such courses only nine, or 39.1 per cent., did so, and of the forty-six men who had taken less than three such courses, twenty-eight, or 60.9 per cent., won a *cum laude.* From figures so small as these, it would be absurd to conclude that the study of natural science in college is a detriment to a medical education, but they tend to show that exclusive pursuit of natural science is not always a conspicuous benefit, and that a man who has neglected that field is not necessarily at a disadvantage. So far as they go, they appear to reinforce the conclusion that one subject is not distinctly better than another as a preparation for professional education.

[4] Before entering the school, a student must have taken two courses in chemistry or their equivalent.

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Let us turn from the question of the subject studied to that of the proficiency achieved in it. The second pair of columns in diagram 3 show the numbers of men attaining certain grades in college who won, and failed to win, a *cum laude* in the law school. The first of the two columns depicts the men who failed to achieve that distinction in the school; the second, those who won it. The white spaces at the base of each column indicate the men who graduated from college with a plain degree; the spaces next above, with two narrow black lines, the men who graduated from college with a *cum laude;* the next spaces, with a broad black line in the center, the men who graduated with a *magna cum laude;* and finally, the wholly black spaces at the top, the men who graduated with a *summa cum laude.* Comparing these with the first pair of columns at their left, the shorter column of the second pair is by no means a miniature of the taller one, as in the first case. On the contrary, the proportion of white is much larger in the tall column, and the darker the space, the less its proportion in that column. In other words, the higher men's rank in college, the better their chance of winning a *cum laude* in the law school, and the chance increases rapidly with the excellence of the college rank. Of the six hundred and nine men who graduated from college with a plain degree, only forty, or 6.6 per cent., obtained a *cum laude* in the law school; of the three hundred and five who graduated from college with a *cum laude,* sixty-eight, or 22.3 per cent., won a *cum laude* in the law school; of the two hundred with a *magna cum laude,* eighty, or 40 per cent., did so; and of the thirty-three with a *summa cum laude,* twenty, or 60.6 per cent. Thus the chance of winning that distinction in the school was more than three times as great for the man who left college with a *cum laude* as for the man with a plain degree; six times as great for the man with a *magna cum laude;* and nine times as great for the *summa cum laude.*

The two pairs of columns in the diagram for the medical school show the same contrast, and the figures tell the same story, altho in different proportions, because the honor degree

in that school is awarded on a standard less severe. Of the two hundred and thirty-nine men who graduated from college with a plain degree, eighty-six, or 36 per cent., won a *cum laude* in the school; of the eighty-five with a *cum laude,* sixty-five, or 76.5 per cent.; of the thirty-nine with a *magna cum laude,* thirty-four, or 87.2 per cent.; and both of those with a *summa cum laude,* or 100 per cent.

Now these results being positive, and involving the two factors of selection and training, give us no means of distinguishing the effects of each of those factors. They do not tell us whether the success in the professional school of the higher scholars in college is due to the work they do as undergraduates, or to the fact they possess by nature qualities which lead to high rank in both places. We must, therefore, seek some other test that will eliminate, or reduce in importance, one of the factors, in order to ascertain the effect of the other. For this purpose, we may take the passing of the entrance examinations to college, which may be regarded as a rough measure of natural ability and industry. If the students entering Harvard College came from a great variety of schools differing much in educational standards, the entrance examinations would be at least as much a test of the excellence of the schools as of the capacity of the candidates; but hitherto that has not been the case. The last report of the chairman of the committee on admission shows that at least two-thirds of the boys admitted are prepared in a comparatively small number of schools that undertake regularly to fit for the college. Under these conditions, it is reasonable to suppose that the passing of the examinations is mainly a measure of the scholarly qualities of the candidates. Again, if all students after entering college were studious, the difference between their standing at the entrance examinations and their rank in college might be attributed to their progressive intellectual development. But every one familiar with student life knows that this also is not the case; that low rank on the part of men who entered well is commonly due not to lack of ability, but to absorption in other college activities, or to indolence bred in the new environment. We may assume,

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therefore, that excellence in passing the entrance examinations is a rough test of natural scholarly qualities; and that if, among the men thus shown to possess these qualities, there is any substantial divergence in the professional school between those who have ranked well in college and those who have not, the difference must be attributed in large part to the effects of the training so obtained.

The relative rank in the college and in the law school of the men who entered college with and without conditions is shown in the following table:

HARVARD LAW SCHOOL 1891–1910

TOTALS	ENTERED COLLEGE CLEAR						ENTERED WITH CONDITIONS						PER CENT OF C. L. in Law School of men entering college			
	Rank in College				Rank in Law School		Rank in College				Rank in Law School					
	PLAIN	C. L.	M. C. L.	S. C. L.	PLAIN	C. L.	PLAIN	C. L.	M. C. L.	S. C. L.	PLAIN	C. L.	CLEAR	COND.	BOTH	
609	269				239	30	340				330	10	11.1	2.9	6.5	
305		179			126	53		126			111	15	29.1	11.9	22.3	
200			148		83	65			52		37	15	43.9	28 8	40.	
33				29	12	17				4	1	3	58.6	75.	60.6	
1147				625	460	165				522	479	43	26.4	9.	18.1	

It will be observed that the men who entered college clear, and those who entered with conditions, form two groups not very unequal in size, the former numbering six hundred and twenty-five and the latter five hundred and twenty-two. The men who graduated from college with distinction, and those who graduated with a plain degree, form two other groups even more nearly equal, the former being five hundred and thirty-eight and the latter six hundred and nine. Now, if we compare the achievements of these groups in the law school, we find that of the men who entered college clear 26.4 per cent., and of those who entered with conditions only 9 per cent. won a *cum laude* in the law school; while of the men who graduated from college with distinction 31.2 per cent., and of those who graduated without distinction 6.5 per cent. attained a *cum laude* in the school. These figures indicate that both natural aptitude, as shown by the entrance

examinations to college, and the training acquired by hard work there, as shown by college rank, are substantial factors in attaining a high grade in the law school. If the entrance examinations were an exact test of natural ability, so that we had eliminated one of the factors entirely, instead of merely reducing its importance, we should be able to go farther and say that the two factors are not very unequal in force, the greater importance, if there be a difference, attaching to hard work in college.

The same result is obtained if, by means of these two factors, we make a cross division into four groups; for of the three hundred and fifty-six men who entered college clear and graduated with distinction, 37.9 per cent. won a *cum laude* in the law school; of the one hundred and eighty-two who entered with conditions and graduated with distinction, 18.1 per cent.; of the two hundred and sixty-nine who entered clear and graduated without distinction, 11.1 per cent.; and of the three hundred and forty who entered with conditions and graduated without distinction, only 2.9 per cent. Clearly the man who has never been a scholar before he enters the law school has a very minute chance of distinguishing himself there.

Curiously enough the chance of a *cum laude* in the law school is nearly the same for the man who enters college clear and does not graduate with a *cum laude,* as it is for the man who enters conditioned and graduates with a *cum laude;* and that it is the same for the man who enters clear and graduates *cum laude,* as it is for the conditioned man who graduates with a *magna cum laude.* When we come to the *summa cum laude,* the numbers are too small to be of value, and it may be assumed that entrance with conditions followed by so high a grade in college means defective preparation at school.

The statistics for the medical school tell the same story with a greater emphasis upon the importance of rank in college, altho the number of men who obtained more than a *cum laude* there is too small to justify comparisons in detail. The figures are as follows:

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HARVARD MEDICAL SCHOOL 1895–1910

TOTALS	ENTERED COLLEGE CLEAR						ENTERED WITH CONDITIONS						PER CENT OF C. L. in Medical School of men entering college			
	Rank in College				Rank in Med. School		Rank in College				Rank in Med. School					
	PLAIN	C. L.	M. C. L.	S. C. L.	PLAIN	C. L.	PLAIN	C. L.	M. C. L.	S. C. L.	PLAIN	C. L.	CLEAR	COND.	BOTH	
239	99				57	42	140				96	44	42.4	31.4	36.	
85		57			15	42		28			5	23	73.6	82.1	76.5	
39			28		4	24			11		1	10	85.7	90.9	87.2	
2				2	0	2				0	0	0	100.		100.	
365				186	76	110				179	102	77	59.1	43.0		

78.1 84.6 80.1

We are now in a position to consider the one apparently positive result of the pursuit of different subjects in college, that is the superiority in the law school of the men who took six or more courses in the group of philosophy and mathematics. This, as already pointed out, is in fact due to those who elected mathematics; but the number of men who took six courses in the subject is so small that it seemed well to enlarge the class by including all those who took four or more courses. There were only sixteen such men in all during the twenty years, of whom ten won a degree *cum laude* in the law school, whereas at the average rate only three would be expected to do so. But if one examine the grades of these men in college, we find that they were far above the ordinary rank, three of them having graduated *cum laude,* eight *magna cum laude,* and two *summa cum laude.* Calculating the chances for men of that rank, it appears that 5.28 of them would be expected to attain a *cum laude* in the law school. This is nearer, but still far below, the actual result.

It is interesting to compare with the mathematicians the men who took four or more courses in the classics. They numbered one hundred and fifteen, being decidedly more frequent in the earlier years. At the average rate for the whole class, twenty-one of them would have obtained a *cum laude* in the law school, whereas in fact thirty-one achieved it. But the men who elect classics are also better scholars than the average, and calculating their chances according to their rank in college, we should expect to find twenty-seven of them in

the *cum laude* list of the law school, a number not very far from the actual result. If, therefore, one can draw any inference from figures so small, the case of mathematics is singular. Unless some other element enters into the problem, such as an unusually high standard in the department, or an unusually vigorous intellectual appetite on the part of students who elect the subject, the result may be supposed to indicate, so far as it goes, that mathematics, altho rarely selected for the purpose, is a particularly good preparation for the study of law; perhaps because the methods of thought in the two subjects are more nearly akin than is commonly supposed.

Leaving aside this possibly exceptional case, the conclusions to be derived from the facts presented in this paper would seem to be that, as a preparation for the study of law or medicine, it makes comparatively little difference what subject is mainly pursued in college, but that it makes a great difference with what intensity the subject is pursued—or, to put the same proposition in a more technical form, familiarity with the subject-matter, which can be transferred little if at all, is of small importance in a college education, as compared with mental processes that are capable of being transferred widely, or with the moral qualities of diligence, perseverance, and intensity of application which can be transferred indefinitely. The practical deduction is that in the administration of our colleges, and, indeed, in all our general education, as distinguished from direct vocational or professional training, we have laid too much stress on the subject, too little on the excellence of the work and on the rank attained.

A. Lawrence Lowell

Harvard University

II

AMERICAN SCHOLARSHIP [1]

I

To the many general causes of educational unsettlement and confusion in this "age of transition," the United States adds one peculiar to itself. Normally, the higher educational system of a great country should send its roots deep down into the national tradition, and its organs should be nicely adjusted to one another and to the functions of the national life. But the American college is an accidental development of colonial copies of the English college, and the superposed American university, even when not a direct imitation of the German university, is manned chiefly by professors "made in Germany." For the disadvantages of these anomalies, there is some compensation in a certain breadth, flexibility, and open-mindedness that characterize the better type of American scholar. But the disadvantages are nevertheless very real, and not to be blinked. They may be summed up in the word maladjustment, manifesting itself externally in the imperfect coordination of secondary, collegiate, and university instruction, and spiritually in the divorce of our scholarship and our science from culture. There are, of course, many other causes for this specialism, commercialism, democracy. But the chief causes, perhaps, is the fact that our professional scholarship has been in the past an importation, not an indigenous growth—an importation not from England, the home of our literature; not from France, whose qualities would best correct the excesses of professionalism and the heavy Teutonic strain in ourselves; but from Germany, whose culture, as Goethe, Heine, Schopenhauer, and Nietzsche have

[1] Reprinted, by permission, from the New York *Evening Post.*

told their compatriots, is a sporadic, feebly rooted flower, choked by a weedy growth of over-specialized erudition.

There is no remedy for this state of affairs in doctrinaire and revolutionary reform of our educational machinery, nor in those facile denunciations of pedantry with which lively writers can always win the applause of a gallery that has been habituated by professors of the new pedagogy to apply that purely relative term to every form of exact and minute scholarship. The fault is not with the seminar, the doctoral dissertation, or the final examination. These are convenient and flexible instrumentalities which the university professor is already free to use for the realization of any idea to which he can win his students. It is the ideals and aims themselves that need to be liberalized, not revolutionized. That is necessarily a slow process, the first step in which must be a clearer self-consciousness on the part of American scholars and a fuller appreciation of the problem which the development of the American university has created for them. Our task is to redefine, and so far as may be harmonize, the aims of culture and scholarship without undue concessions to the gushing dilettante, and to emancipate ourselves from slavish subservience to German influence without losing the lessons or forgetting the debt of gratitude that we owe to Germany.

II

In practise, the beginning of such a reaction shows itself in the increasing proportion of American students who now pursue their graduate studies at home instead of going to Germany. Our pupils recognize that the much exaggerated and rapidly lessening scientific superiority of the German universities is more than outweighed by the possibilities of unity and continuity of culture, uninterrupted contact with the national life and education, and the more intelligent and sympathetic personal guidance which the better American universities provide. They see that our degrees are somewhat harder to win, and infer that they may be quite as well worth the winning. They are right, and we should henceforth

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reserve traveling fellowships for holders of the American doctorate who will visit the German universities as intelligent observers and critics, and not abandon themselves in helpless, open-mouthed plasticity to be molded into patterns of second-rate Germans. Men who go directly from the inadequate preparation of the ordinary minor college to the great European universities not only waste a year or two in fumbling endeavors to adjust themselves to alien conditions, but convey and receive totally false impressions about American and European scholarship. The superiority of the foreign university rests almost wholly on the severer discipline of the German gymnasium and the great English public schools. The American university professor, if competent for his task, is aware of this difference, makes allowance for it, and in the end brings a fair proportion of his men up to the European standard even in the technic of scholarship. There is no provision for this work in the European universities. The visiting American student, if exceptionally able and ambitious, may be stimulated to remedy his deficiencies unaided. In a large proportion of cases he copies out copiously and slavishly lecture notes not adapted to his needs, fancying that he is storing up treasures of erudition undreamed of in America, and leaving on the mind of his German or Oxford professor a conviction, which courtesy vainly endeavors to disguise, that Americans lack the very notion of sincere and serious scholarship. At the end of three or four years he returns, completely out of touch with American life and American education, to teach American boys. If a Rhodes scholar, he has gained an English intonation, some polish of manner it may be, and possibly an enlarged and more discriminating English vocabulary. But he is no nearer to an earned doctor's degree and professional mastery of his subject than one year at a first-class American university would have brought him. If Germany was his choice, he may have received the degree which Germany bestows somewhat lightly for the encouragement of the alien, and he has learned a foreign language. But he has paid a heavy price for his German in three years' discontinuance of the habit of reading English, and in the Teu-

tonization of his English style. He has steeped himself, not so much in his subject, as in the German terminology and systematic *Wissenschaft* of his subject, with the result that either he will remain for life the prisoner of the system and the terminology, or, as sometimes happens, in a mood of revolt and reaction, he stops his subscription to the *Selten erscheinende Monatschrift* and takes in the *Bookman,* and replaces the philological hand apparatus on his revolving bookshelf by a set of the British poets and the *Library of the world's best literature.*

It may be said that the outcome of an American course of graduate study is often equally futile and deplorable. It must be admitted that the machine-made doctor of philosophy often remains essentially a barbarian, unread outside of the technical literature of his specialty, unfurnished with those general ideas the possession of which was Taine's criterion of the educated man, and incapable of either writing or understanding English of the sound tradition. From this text our impatient critics proceed to a general onslaught on American scholarship and denunciation of the Germanized American university, its minutely specialized courses, its seminars, and the doctoral dissertations, the parody of whose titles is a gag that never fails with a popular audience. They would reform it altogether, and substitute for the idea of training investigators the endeavor to produce teachers, writers, intellectual leaders, of broad and liberal culture. With the demand for the humanization of our scholarship I heartily sympathize, tho I would accompany it by a plea for the fortifying of our culture by a little more respect for exact knowledge. It is not the excess of either erudition or culture, but their assumed incompatibility and divorce, from which our higher education is suffering. But in their eagerness for the end, our literary censors investigate the disease superficially and prescribe impossible remedies. They ignore the complexity of the problem and do scant justice to the efforts of university instructors to solve it. They forget that in the graduate school, at any rate, culture really is and must be a by-product. A three years' graduate curriculum, devoted ostensibly and

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mainly to cultural courses, wide reading in general literature, and daily or monthly themes, is an impossible piece of educational machinery. The more serious students would revolt at its aimlessness, and the public would very properly want to know what the undergraduate course was for.

III

And this brings us to the central difficulty with which the American university professor is struggling, not quite so unconsciously, or, if we take long views, so hopelessly as the genial onlooker assumes. The deficiency of the ordinary graduate student, not only in respect to culture, but in the elementary technic of his specialty, is due to the comparative failure of collegiate education, that in turn to the lax training of the secondary schools, and that again to the low intellectual standards of a young, prosperous, commercialized nation, and the reaction of the indulgent American parent against what he deems puritanic or old-world ideas of discipline and restraint. This fatal sequence and the recriminations to which it gives rise are an old story which it is useless to repeat here. It may be freely conceded that the university, too, contributes its share of errors to our pedagogical muddle. But if these could be eliminated by the wisdom of its critics, the chief problem would still remain: the retrieval in three short years of the losses and waste of ten years of confused and misdirected effort. It can not be done without sacrifice. So long as the American graduate student enters the university unable to write lucid English and ungrounded in the elements of the subject which he proposes to pursue, he must work a little longer and a little harder for his degree than he normally should. Even so, he will not achieve a perfect adjustment of the ideals of professional competency and breadth of culture. In the nature of things he will incline to one side with some sacrifice of the other. The scheme of the graduate curriculum is broad enough to include both. It is already so administered in many places as to do justice to the reasonable claims of both. The name seminar

need frighten nobody, so long as it is recognized that a seminar may deal with the literary criticism of the Greek drama or the philosophy of Plato as well as with the text criticism of Pliny's letters or the syntax of the Greek verb. The acceptance of an occasional doctoral dissertation on a Greek particle or the manuscripts of Catullus should be no grievance to the student of broader interests, provided he himself is encouraged and helped to write, if he can, a readable monograph on some literary, historical, or philosophic theme. The graduate school can meet all the legitimate needs of more aspiring spirits without sacrificing its present ideal of exact, first-hand scholarship within a definite field for all and original research for some. It is not and should not be any considerable part of its function to provide either " inspiration " in the form of eloquent popular lectures or training courses for the journalist, the novelist, and the essayist. These things, so far as they can be taught at all, belong either in the second half of the collegiate course or in the extension department. The " mere " littérateur should not attempt to force his point of view upon the graduate school. But if he can afford the time he will greatly profit by accepting its point of view provisionally and for one or two years. From the narrowest curriculum he will acquire something which in America he could hardly get in any other way, the scholar's conscience and a clear conception of the difference between first-hand and second-hand knowledge.

These preliminary reserves and qualifications threaten to occupy more space than the main thesis. But *distinguo* is the first word of my philosophy as of Montaigne's. The undiscriminating attribution to German influence of all real and imaginary defects of the American graduate school and the systematic exaggeration of the supposed antithesis between scholarship and culture can do no possible good. Nietzsche's eloquent diatribes against the excesses of history and philology have no application to our conditions. The superior culture of Oxford or Paris is not due to the substitution of culture courses for detailed and precise work. It is due to the background of the national tradition in language and literature,

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and the controlling consciousness of this tradition in the minds of teachers and taught. Germany has never had such a tradition and our dependence on Germany has prevented us from renewing ours, interrupted by the conditions of colonial and pioneer life.

The mere habituation of American scholars to German prose, thru their most impressionable years, would keep them from attaining the certainty of linguistic instinct of a cultivated Englishman or Frenchman. *La prose allemande n'existe pas,* says a distinguished French critic. Unfortunately, it does exist for American philologians as an *exemplar vitiis imitabile.* I refer not merely to the omnibus type of German sentence wittily described by De Quincey, Ruskin, and Mark Twain, to the "something splay" in the German language which Nietzsche quotes from Matthew Arnold, or to the all-pervading mixed metaphor. Rhetoric is something larger than refinements of style or diction; it is psychology, tact, taste. Professor von Wilamowitz is not only one of the greatest of living scholars, but in his way a man of the broadest and finest culture. But all his genius could not save Goethe from the cabbage passage in *Werther,* and all his Hellenism could not guard Wilamowitz against that sophomoric flight of rhetoric about the Athenian sewers at the close of his *Aus Kydathen,* which would be as impossible to a Jebb or a Gaston Boissier as we trust it will some day seem to American scholars of equal standing.

Style is only a symptom of deeper things. A Germanized education makes our scholars strangers to their own national literature, and confuses all their literary, historical, and cultural perspectives. It may be doubted whether literary criticism can ever rise higher than its source in the critic's immediate perception of values in the language and literature to which he is born. From this must come the analogies, instincts, standards, that control and keep sane the philological criticism of other literatures. The criticism of German scholars lacks and always has lacked this balance-wheel. They do not know their own literature as Frenchmen and Englishmen know theirs, nor do they write with constant reference

to it. And if they did it could supply them no equivalent of the poetry of England, the drama and the prose of France. The consequent crudity and amateurishness of their criticism of life and letters is their misfortune and not their fault. But it will surely be our fault if, dazzled by the prestige of their learning, we continue much longer to take seriously their Homeric theories, their interpretations of the Platonic philosophy, their estimates of Cicero and Virgil; if we accept as contributions to comparative literature articles on *Der Einfluss der Anakreontik auf Johann Peter Uz,* or the triple sawdust of Stemplinger's *Fortleben der Horazischen Lyrik,* and Billeter's *Die Anschauungen vom Wesen des Griechenthums;* if we study Mill's Platonism only at second hand in Gomperz, and treat the Homeric views of Andrew Lang respectfully only when they come back to us in Rothe; if we waste our students' attention on Robert's *tours de passe-passe* with Mycenæan and Ionian armor, or on Mülder's equations of eyes and oysters; if we assist the disciples of Blas in rearing the baby science of prose rhythm, conceived in the innocency of a scholar whose naïve surprize at the cadences of Plato and Demosthenes was untempered by any previous experience of De Quincey or Ruskin; if we accept the estimates of reviewers blind to the crushing superiority of Jebb's *Sophocles,* Gaston Boisser's *Cicero,* or Croiset's *History of Greek literature,* and acquiesce in the judgment that dismisses Pater's *Plato and Platonism* as the trifling of an amateur, while treating the pseudo-science of Lutoslawski as an advancement of knowledge; if we remain to the end dependent on bibliographies that catalog Jane Austen's *Sense and sensibility* under *Sinneswahrnehmung* and list a reprint of FitzGerald's *Agamemnon* as a new text edition.

Something too much of these obvious and ungracious reflections. It is, I repeat, not the fault of the Germans that the false historical perspective and *Umwerthung aller Werthe* which accompany their gifts of learning are a hindrance and not a help to the heirs of Chaucer and Tennyson. The remedy, as we have seen, is not to substitute culture courses for scholarship, but to train our scholars at home as French and

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English scholars are trained in an environment and by methods that shall subject the form and relate the content of their knowledge to the high tradition of their own language, literature, and inherited culture. This can not be done in a day or a generation. For it will take a generation to prepare the teachers. But we may make a beginning now—with ourselves, as well as with our pupils.

IV

Thus far I have spoken of our own special problem of the adjustment of an imported professional scholarship to our national education and culture. But there is a brief final word to be said on the need of rescuing scholarship itself from the German yoke. The public will suppose me to mean from German pedantry and superfluous accuracy in insignificant research—but I mean in all seriousness from German inaccuracy. The disease of German scholarship, well indicated by Matthew Arnold in *God and the Bible,* has now infected all the world. The game of investigation, as played by its most brilliant practitioners, threatens to become a systematic dissemination of error and perversion of the feeling for evidence. In a large proportion of philological and historical problems, the most that we can hope to attain is an accurate collection of the insufficient evidence and a clean-cut statement of the alternative probabilities. There still remains an enormous amount of this work to be done. Instead of doing it, the Germanized scholarship of the world insists on "sweat-boxing" the evidence and straining after "vigorous and rigorous" demonstration of things that do not admit of proof. The method is openly avowed and defended on principle. The scholar who lacks the courage to make mistakes, they say, will make no discoveries. They quote Bacon to the effect that truth emerges more readily from error than from confusion, and take this to mean that the systematic elaboration of absurdity is the true philological method. The practical results are deplorable. The chief objection to hunting for mares' nests is that you are sure to find them. But

the quest itself impairs the reasoning powers. It obscures in our teaching and in the eyes of the public the true cultural aims of philological study by an excess not of precision, which can never do harm, but of that parody of scientific research which consists in the " pyramiding " of unverifiable hypotheses. It blinds us to the elementary logical truth that the resultant probability of such a process is not the summation but the fractional product of the probabilities of the separate steps. And what is more, the predetermined resolve to achieve results vitiates the separate steps. The public even of scholars has no conception of the quantity of misstatement now circulating in accredited books signed by reputable names; and it is impossible to tell them because the enumeration of errors is not only invidious in a writer, but intolerably wearisome to the reader. There are large fields of philology in which we shall be compelled to do the work all over again, in order to determine the simple facts of the tradition uncolored by the pleas of advocates with points to prove. The big ambitious books of the Nordens, the Heinzes, the Reitzensteins, the Joels, the Dümmlers, the Hirzels, the Wendlands, and even, alas! of the Wilamowitzes can not be trusted. They can not be safely used without laborious verification, and verification too often reveals that the texts cited are mistranslated, misinterpreted, or, at any rate, do not prove the point. American scholars have not wholly escaped this infection. But either some defect of ambition or a remnant of Yankee common sense makes the majority of them immune to the disease in its most virulent form. There are compensations in all things. It is sad that our scholarship, as our literary friends so often remind us, is hard, thin, dry, matter-of-fact, syntactical, statistical, archeological, and negative; that it never rises to the comprehensive survey and the generous *élan of* constructive hypothesis of Germany, and is lacking in the grace and charm of France, the restrained emotion and finished eloquence of England. But I console myself with the reflection that perhaps, while we are growing to our full stature, it is the temporary mission of our hardness and thinness to correct some of the excesses associated with the admirable qualities that are

beyond our reach. We are often reproached for not producing those charming, readable essays that flow so frequently from the facile pens of our French and English colleagues. Well, Professor Butcher's lecture on Greek literary criticism is pleasant reading, but I am not certain that the multiplication of such lectures would be a more desirable outcome of our scholarship than are Professor Carroll's dissertation on Aristotle's *Poetics,* Dr. Baker's study of literary criticism in Greek comedy, or Professor Van Hook's dissertation on the terminology of Greek literary criticism. I open Professor Butcher's essays at random, and read:

> Plato goes so far as to discover a moral danger in prose compositions which lack rhythm or harmony: to his mind they indicate some disorder within the soul.

Here is a testimony to rhythmical prose indeed. It is most interesting. Unfortunately, Plato says nothing remotely resembling what is here attributed to him. The passage of the "Laws" cited in support of the statement is completely misunderstood. I open Professor Mackail's delightful lectures on Greek poetry and find an eloquent page about an awesome lightning flash which illuminates an awful pause before the retreat of the Trojans. Nothing could be more impressive—if true. But there is no lightning flash, and the simile does not illuminate the terror-stricken pause of the Trojans, but the breathing space won by the Greeks seventeen lines after the pause. If we must choose, I prefer American thinness and dryness to this. We may pay too high a price not only for a German *geistreiche Combination,* but for French neatness of antithesis and English romantic sentiment. To adapt the phrases of Emerson, let us sit at home with might and make the best of ourselves.

PAUL SHOREY

UNIVERSITY OF CHICAGO

III

THE PLACE OF THE MANUAL ARTS IN EDUCATION

As the field of school education broadens, its aims and methods become more varied and complex, and often confused. This is certainly the case today in that department of education which deals with the manual arts. The motives for the introduction of these arts have come to be so varied that to think clearly concerning this phase of school work is very difficult. This is perhaps fundamentally due to changing social ideals and consequent demands, but it is partly due to a failure of educators to recognize that the manual arts function in school education both in attaining the end of education and in facilitating the educative process. The teacher needs to keep in mind this dual capacity which the manual arts possess as a means in education.

This duality of function is not peculiar to the manual arts. It is equally true of the natural sciences, and many have been the pedagogical battles fought out in that field in times past. One can readily recall the time when the science teachers were dwelling in two camps, one emphasizing the facts of science and the other the method. It would seem, therefore, that the arts might have profited by the experience of the sciences, but in much of the discussion during the past fifteen years, this surely has not been the case and is not today. One man looks upon the manual arts as a body of subject-matter to be taught as he would teach the facts of history; another insists that the manual arts must be regarded as a fundamental method in education, and claims to care little or nothing for the subject-matter involved in this method. The place therefore of the manual arts in the one case is quite different from that in the other. One leads merely to a mastery of the ma-

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terials and the manual processes of industry, the other to a new motive and means of expression in teaching other subjects. The man whose vision penetrates deep enough sees that the big truth concerning the manual arts includes both of these, and that instead of being in conflict they are really in harmony. When this viewpoint has been gained a most fundamental step has been taken toward finding the place of the manual arts in education.

In discussing this larger view, four propositions may be considered:

I. In so far as the *end of education* can be attained more readily thru the employment of the manual arts, these arts should have a place in education.

The end of education changes from age to age as civilization advances, and should be in harmony with the ideals and institutions of the time. At the present time no end seems so much in harmony with needs and the highest ideals as that of social efficiency in the individual. In its broad interpretation, this term seems to summarize all other worthy aims, and points toward a goal not yet reached. Taking for granted, then, that the ultimate end of education is social efficiency in the individual, the manual arts should have a place in school education corresponding to their effectiveness in helping men to become socially efficient.

As social efficiency in the individual means first of all that each individual must be directly or indirectly a productive member of society, the arts must answer the demand of productivity. To be productive a man must at least "pull his own weight." He may do so either "directly as a productive agent or indirectly by guiding, inspiring, or educating others to productive effort." [1]

As productivity in the great majority of individuals is the direct result of the intelligent and skilful use of the hands, it follows that training in the manual arts, which more than any other division of school work develops such use of the hands, should be given a place sufficiently large to allow such training to be effective. Until sufficient time is allowed in the school

[1] Bagley: *The educative process.*

program for the manual arts no one should expect large results from them. With a time allowance which will require as much of the pupil's effort as is given to the other fundamental studies, both inside and outside the school, the manual arts will yield results which count large on the side of productivity.

The manual arts contribute to social efficiency in several ways. They not only give vocational power, contributing largely to ability to earn a livelihood, but they impart first-hand knowledge of the material accessories of modern life. Every man's effectiveness and happiness is dependent in some measure—sometimes in large measure—upon the ease and intelligence with which he utilizes the modern conveniences in his own home or the material devices which make for economy and efficiency in business life. Moreover, the manual arts develop appreciation of beauty in its relation to material form, color, tone, and texture, which is an element not only in esthetic enjoyment but in general efficiency and productivity. And, further, the manual arts provide a means in addition to written language, of transmitting from generation to generation and age to age, some of the choicest thought and feelings of man. Since the manual arts contribute so largely to social efficiency, and social efficiency is the end sought in education, the manual arts deserve a place in school work.

II. In so far as the *educative process* can be accelerated and made more thoro thru the employment of the manual arts, these arts should have a place in education.

The educative process is one of gaining experience either directly, or indirectly, thru other persons or their records in books or works. In this process of gaining experience the value and effectiveness of indirect experience is dependent to a very large extent upon related direct experience. There is no substitute for such of these direct experiences as are fundamental, and the greater the number, the greater will be "the mass of apperceiving ideas," tho after some fundamental direct experiences have been gained, it is often economy to make use of indirect experiences. To gain the fundamental direct experience at the time when needed and in the right

relation to associated indirect experience is most desirable. To bring this about is largely the work of the school, and therefore the school must have the necessary means at hand.

Applied to the manual arts, this indicates that if these arts are to be effectively taught in the school, or if real appreciation of these arts is to be developed, first-hand experience must be gained in them in the school. It is folly to try to teach a girl to appreciate needlework without giving her needle and thread and cloth and teaching her to sew, but after she has learned the fundamentals of sewing this knowledge will serve as a basis for the appreciation of results in needlework quite beyond her skill to produce, and wholly beyond her ability to appreciate before she had learned the fundamentals of needlecraft. Moreover, many of the other subjects of the school curriculum—certainly of the elementary school—are naturally so interwoven in the manual arts and find practical application so widely thru them, that direct experience in these arts provides a motive, a need, recognizable by the child, which is at the basis of many of our modern methods of teaching. A child wants to make a picture book. In making it he must measure and he must divide; he should also increase his practical vocabulary; in addition to these he may learn something of the early history of books and of the source of paper and strawboard and cloth and paste; he may then collect pictures and learn something of the lives of the men who painted them, and the thoughts and feelings they desired to express thru them. Thus the manual arts serve as a method or means of teaching other subjects, and so contribute an element of value in the educative process.

III. If the place of the manual arts in education depends upon their service in attaining the end of education and their value in the educative process, then they should be regarded as both subject and method.

The history of handwork in education reveals two traceable tendencies concerning the place of the manual arts which have been more or less in conflict. One has been to regard these arts as a subject and the other as a method.

Dr. Pabst of Leipsic has pointed out [2] that Heusinger believed that the impulse to activity should be used to lead man to avenues of knowledge which otherwise would remain closed to him. Froebel emphasized and developed this idea and placed handwork at the very center of the curriculum. Herbart, on the contrary, and many of his followers, use handwork as a means of teaching the other school subjects, and make handwork dependent upon the other branches of instruction for its problems. Salomon in Sweden, Goetze in Germany, and most of the earlier leaders of manual training in England and in this country regarded their work as a subject coordinate with other subjects in the curriculum, while Colonel Parker and several child study specialists in this country and in England have given marked emphasis to handwork as a method in education, and much of the literature of the subject of a few years ago was written with the viewpoint of these men. During the past few years, with the advent of the movement toward industrial education, there has been a growing tendency again to give emphasis to the manual arts because of their content value, but, let it be hoped, without forgetting their process value. Today it seems clear that the manual arts in education should function both as subject and method. The advocate of either view by itself seems not to present the whole truth. To contend that in order to have educative value, work in the manual arts must smack of a trade, or to look upon these arts in the school as merely producing certain specified material forms in clay or wood or metal, without reference to how they are produced; or again, to think of the manual arts as merely a body of facts to be learned about materials, tools, forms, colors, and processes, is to fail to get an adequate idea of the place of the manual arts in education. On the other hand, to insist, as some have done, that the function of the manual arts is to provide a concrete method of teaching other school subjects, or to supply a motive or need which will admit of a better method of teaching the other subjects, is to reveal an equally inadequate conception of the function of the manual arts in education. Only thru

[2] *Handwork instructions for boys*, translated by Bertha Reed Coffman.

the unification of these two views of the manual arts, regarding them as possessing at once the characteristics of both subject and method, can we hope to get the true and adequate conception which will be a safe guide in organizing manual arts work in the school.

IV. Considering the place of the manual arts in education as dependent upon the aim of education and the needs of the educative process, and regarding these arts as both subject and method, the place which they should occupy in the work of any section of the school, as primary, grammar, or high, can be determined by discovering the specific end sought in that section and the special needs of the educative process with reference to the manual arts in the particular stage of child development represented by the section.

In considering the primary grades it may be assumed that it is clear to every one that so far as the manual arts are concerned, the end of social efficiency in the individual is better served by laying a broad foundation of first-hand experience than by taking him thru any narrow course of more specific technical training. It has been proven that if sufficient time be given to basketry for several years, American primary school children can make most remarkable baskets, some of them almost rivaling the work of the aborigines themselves in fineness and technic. But it is hardly the function of the primary school to train expert basket makers, and it would be difficult, on any other ground, to justify such a narrow course of training in handwork. It would be far better to give the young child experience in a large variety of materials and processes, not so much to teach technique as to stimulate and guide his natural constructive activity, and to utilize the great opportunity that presents itself at this age for expression, more or less free, thru concrete material. In fact, in these grades the manual arts should be regarded as a method far more than a subject. Let them serve every other subject or embryo-subject in every natural and reasonable way. Instead of limiting the child in this work to paper and raffia, or clay and cloth, or wood and wire, give him all of these and more. Cultivate in him the habit of observing how things

are made, of expressing ideas in concrete form, of constructing well enough to serve a purpose which he understands, and of doing it all so neatly and in such good form and color that it is pleasing to his gradually more discriminating eye. Stimulate in him that real joy and wonder at the possibilities of construction with his own hands, which the little kindergarten boy felt when in great enthusiasm he said, "Isn't it fine to see how one thing busts into another without breaking." The aim, then, in the primary grades should be to utilize the manual arts in giving the child an opportunity to gain a wide range of direct and useful experience with constructive materials and processes, without very much reference to technique.

In the early grammar grades the emphasis begins to shift toward the manual arts as a subject, and in the upper grammar grades, technique is as essential as was freedom from technique in the lower primary grades. Physically and mentally the child is now ready to form very definite habits in the use of his hands. In fact, he will form them whether we wish him to or not, and it is therefore essential that we see that the right ones instead of the wrong ones are formed. If he uses a tool he should be taught to use it in the right way. Otherwise he may have to go thru the expensive process of inhibiting a bad habit and acquiring a good one in its place. When such bad habits are multiplied they become discouraging and well-nigh impossible to unlearn; hence the justice of the criticism of some work for pupils of this age that has past under the name of manual training but fails to possess the first fundamentals of real manual training.

This emphasis on technique does not lessen the interest of the child in his work; on the contrary, it deepens it and renders it more permanent. Moreover, emphasis on technique does not mean returning to the rigid systems of models imported many years ago from Europe, neither does it mean adopting the factory system in all our grammar schools. It does mean *thoroness* where too often there is lack of it, and it does mean teaching a technical process in harmony with recognized technical standards.

All this does not interfere with the manual arts in these

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grades being of value as a method in teaching other subjects, but it does mean that the work during this period contributes to social efficiency, the end of education, more distinctly and definitely than it does to the educative process. A lack of clearness of conception concerning this point has caused much confusion among teachers. The present demand for industrial education, if rightly interpreted and conservatively heeded, may bring us to our pedagogical senses in this matter. If all our art and manual training work of the upper grammar grades were more thoroly done, more technical in character, more in harmony with the industries of adults—were more definitely a serious subject—and if it were given sufficient time in the school program to become really effective, we would hear less complaint about the defects of the school system.

Sufficient time is essential. What could an eighth grade teacher do in teaching United States history if her pupils spent no time outside of the recitation period in the preparation of their lesson and were to recite but once a week—thirty-six hours a year? What practical results could she expect? And yet that is what some schools are doing in the manual arts and are looking for practical results. It is impossible. A few are giving from three to five hours a week and are getting results.

In the high school the manual arts have become differentiated into special subjects, as dressmaking, wood-turning, forging, machine drawing, etc. As a method in education they are still valuable, but it is the educational end they serve far more than any value in the educative process that gives them their place in the curriculum. The end sought may be vocational or general, but in either case the arts taught should be so correct in technique, should place such emphasis on processes that are fundamental, should be so in harmony with the corresponding industry that they will have distinct vocational value as far as they go.

Possibly they may go far enough in the high school or even in the grammar school to give to selected groups of students all that any school can give toward a trade or occupa-

tion, but whether the manual arts aim for immediate vocational results or not, the technical standard should be the same.

The place of the manual arts in school education, then, is that of both subject and method. As method, it is most effective in the primary grades. As a subject, it grows more and more important as the grades advance and becomes a highly specialized subject or group of subjects in the high school. A full recognition of these two aspects of the manual arts, and what naturally follows as a result, should be a help to every teacher and school superintendent in organizing his course of instruction.

CHARLES A. BENNETT

BRADLEY POLYTECHNIC INSTITUTE
PEORIA, ILL.

IV

A QUANTITATIVE STUDY OF READING

A supervisor of schools is required constantly to pass qualitative judgment on the work of teachers. He ranks the abilities of his subordinates as good, bad, or indifferent. Generally the teacher's license or tenure of employment depends upon the rating thus given. It is evident, however, that the efficiency of teaching is determined by quantity as well as by quality. One is not able, by a half-hour's observation alone, to say with perfect assurance that the work of a given class is in all respects satisfactory, for the method of doing a piece of work may be quite correct, while the net result may at the same time be unsatisfactory. Thus, in reading, the mode of presentation may be faultless, the fluency and expression of the pupils may be admirable, yet the work as a whole may be a miserable farce because too little ground has been covered. To be entirely certain that reading has been well taught one must know not merely how glibly a given lesson is read, but also the quantity of material that has been mastered.

How shall we determine the amount read? What shall be the unit of measure? What is a reasonable amount of reading for each of the several grades of an elementary school? What is the relation of the quality and quantity of the reading to the amount of time devoted to the subject?

These and kindred questions the present inquiry is designed to answer.

I. THE UNIT

It is evident that the page is not a satisfactory unit of measure, because it is not a fixt quantity. Pages vary in size, as well as in the kind of type and spacing. The most perfect kind of measurement is that in which the unit itself is meas-

ured. Counting eggs is a crude way of estimating value, because some eggs are large and some are small. Measuring wheat by the bushel is inaccurate because the measure may vary by being level, heaped, shaken down, or by some other mode of modification. Therefore when large quantities of wheat are handled, the bushel is measured in terms of pounds, and wheat is sold by weight.

In this study the word is the primary unit of measure. It is true that words differ in length, but on the whole, a thousand words of reading matter constitute a pretty constant factor, unmodified by size of page or type or spacing. In order to avoid the use of too many figures, I have adopted the derived unit of *one thousand words* for all quantitative comparison of reading matter. The reader will interpret the figures in the tables which follow accordingly.

The blank used in the investigation was prepared by the writer and sent out at the close of the term ending June 30, 1910, to each of the twenty-three schools in his district. The returns exhibit the work of over 700 teachers and about 30,000 children.

Report on Reading

During present term to date: 191

P. S..... Bor. of..... Class..... Teacher.....

NOTE 1.—In making up this estimate for masterpieces read in the upper grades, only matter that has been completed by first, second, and third readings as required by the syllabus is counted. Under (a), (b), etc., the names of masterpieces should be recorded, as well as the titles of supplementary readers in geography, history, etc.

NOTE 2.—In estimating the amount read, count the words on a full page and multiply this number by the number of pages read, *deducting space occupied by pictures, maps, etc.*

NOTE 3.—In cases where a number of classes of the same grade are taught by a departmental teacher, a single blank will do for all classes having read the identical material. The names of all such classes included in the report should be

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entered at the top of the blank. The figures will represent what *each* class has done.

1. Name of basic or grade reader .....
2. Names of additional or supplementary readers:
   (a) .....
   (b) .....
   (c) .....
   (d) .....
   (e) .....
3. Names of books used in reading to the class:
   (f) .....
   (g) .....
   (h) .....
   (i) .....
   (j) .....
   (k) .....
4. Names of stories dramatized:
   (l) .....
   (m) .....
   (n) .....
   (o) .....
   (p) .....
   (q) .....
   (r) .....
   (s) .....
   (t) .....
   (u) .....
   (v) .....
   (w) .....
   (x) .....
   (y) .....
5. Number of *different words* of all kinds taught (1A or 1B) .....
6. Estimated number of words of reading matter covered this term in basic reader .....
7. Estimated number of words of reading matter covered in "(a)" ....
8. Estimated number of words of reading matter covered in "(b)" ....
9. Estimated number of words of reading matter covered in "(c)" ....
10. Estimated number of words of reading matter covered in "(d)" ....
11. Estimated number of words of reading matter covered in "(e)" ....

    Total .....
12. Estimated number of words of reading matter covered in reading to the class .....
13. Number of stories dramatized to date .....

14. Number of minutes per week devoted to reading: (*a*) basic or grade (+ memory and phonetics).....; (*b*) Supplementary (all other, including reading to class, but excluding spelling, meaning, use, etc.).....; (*c*) Total.....

I have inspected the above report and believe it to be correct.

(Signed).....Principal.

Please mail this report within three days to the District Superintendent.

II. NUMBER OF WORDS TAUGHT IN THE FIRST YEAR

The New York syllabus in reading requires that the pupil shall be able to recognize promptly and to pronounce correctly at least 300 words during the first term of the first year and at least 300 additional words during the second term. This study shows the following results: The average number of words taught during the first half-year in 23 schools is 520; the average number during the second half is 1,100. These schools therefore are doing much more than is demanded of them. The range of words is from 300 to 1,575 for the first term and from 350 to 2,368 for the second term. For the entire year the average is 1,620; the range is from 650 to 3,556. The schools are therefore teaching nearly three times as many words as the syllabus requires; and when a teacher complains that the board of education demands too much, the answer is obvious.

III. TOTAL AMOUNT READ

Below will be found the average amount read in the several schools of the district during each of the eight school years, together with the average time devoted to reading as a separate exercise. Time is given in terms of minutes per week.

Average Amount Read in 23 Schools

(Unit = 1,000 words.)

Year	1	2	3	4	5	6	7	8	Total
Quantity	25	59	118	198	197	180	95	108	980
Time	416	365	306	220	216	188	155	135	

The course of study prescribes the minimum time that may be devoted to "English," but permits the principal to apportion this total among the several branches of English at his own discretion. The minima given are as follows:

Minimum Time for English

Year	1	2	3	4	5	6	7	8
Time	450	510	450	375	375	375	360	320

As grammar, word study, composition, etc., demand more time in the higher grades, reading time gradually tapers off.

The maximum amount of reading is done during the fourth, fifth, and sixth years. Several reasons may be assigned for this. First, these are the grades where much supplementary reading is demanded in history, geography, science, and literature. Secondly, in the highest grades, the pupil prepares his lessons out of school hours, and does much of his reading at home. Finally, in the seventh and eight years, masterpieces of English are read. These are very difficult and require three separate readings, as follows: the first, to get a general idea of the argument, drift, or plot; the second, to master the difficulties of word-study, construction, figure, or allusion; the third, to secure expressive reading of selected passages.

IV. THE BOOKS USED IN READING BY CHILDREN

In New York we have an open book list. The board of education, on the recommendation of the board of superintendents, puts upon the list all the books and general supplies deemed worthy; and upon each principal, subject to the approval of the district superintendent, devolves the duty of selecting from the official list the supplies used in his school. A certain per capita allowance of money is apportioned to each school, and the board of education puts no restriction upon principals save that they must order from the list and keep within their allowance.

The result of this system is, in the judgment of the writer, very satisfactory. The principal has thus a chance to assert his individuality in the choice of the materials of instruction. Responsibility goes with power. If he shows poor judgment, he must bear the consequences. If he wastes his substance early in the year on expensive books and later lacks funds for paper and pencils—the bread and butter of a school—he alone is to blame. The knowledge of such responsibility sobers him into reflection, and makes him a far more valuable executive than he would be if some one benevolently undertook to do all his thinking for him.

With an open book list, one would naturally expect to find great variety in the choice of books. The following partial list of readers used in the several grades by the schools of this district shows that such expectation is fully realized. No class is limited to a single reader. The number of books read in each half-year grade during the first three years averages about three per class, and ranges from two to six.

First year

Ward's Primer and First; Jones's First; Aldine Primer and First; Cyr's Primer and First; Baldwin's First; Culture Readers, I (Miss Merrill); Finger Play Reader I (Davis and Julien); New Education, First; Graded Literature, I; The McCloskey Primer; Stepping Stones, I; Child Life, I (Blaisdell); Lansing's Rhymes and Stories; Folk Lore Stories and Proverbs (Wiltse); Eugene Field Reader; Pathways in Nature and Literature; Summer's Primer; Progressive Road, I (Ettinger); Horace Mann, First; Art and Life Primer (Jacobs).

Second year

Ward's Second and Third; Heath's Second; Fables and Rhymes for Beginners; Pets and Companions; Brumbaugh's Second; Blaisdell's Child Life, II; Wilson's Nature Study in Elementary Schools; Wade and Sylvester, II; Wake Robin, I; Baker and Carpenter's Second; Cyr's Graded Art Reader;

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Baldwin's Second; New Education, Second; Culture, Second; Graded Literature, Second; Cyr's Second; Grimm's Fairy Tales; Book of Plays for Little Actors; In Mythland; Reynard the Fox; Aldine, Second.

Third year

Ward's Third; Heath's Third; Buckwalter's Third; A Child's Book of Poetry; Blaisdell's Child Life, III; All the Year Round, III; Grimm's Fairy Tales; Baker and Carpenter's Third; Jones's Third; Child Life in Tale and Fable; Graded Literature, Third; Feathers and Fur; Graded Classic, III; Hazen's Third; Baldwin's Third; Pinocchio; Alice in Wonderland; Cinderella and Other Stories; Stepping Stones, III; Cyr's Third; Four New York Boys.

Fourth year

Heath's Fourth; Wake Robin Series, Vol. II; Little Wanderers; Good Health for Girls and Boys; Twilight Stories; Four New York Boys; Sprague's Classic Reader, IV; Good Citizenship (Richman and Wallach); Baker and Carpenter's Fourth; Stories of American Pioneers; Nature Study Made Easy; Longman's Geographical Reader; Stepping Stones, IV; Graded Literature, IV; Maury's Geography; Straubenmuller's Home Geography; Little Lame Prince; Dickens's Christmas Carol; Robinson Crusoe; Spyri's Heidi; Brumbaugh's Fourth; Dodge's Elementary Geography.

Fifth year

Four New York Boys; Graded Literature, Bk. V; Black Beauty; Brumbaugh's Fifth; Geography Primer (Cornman and Gerson); Heath's Fifth; Cyr's Fifth; Geography of New York (Smith and Perry); Channing's First Lessons in United States History; Baker and Carpenter's Fifth; Barnes' Elementary History; Kingsley's Greek Heroes; Shaw's Discoverers and Explorers; King of the Golden River; Stepping Stones, V.

Sixth year

Heath's Sixth; Carpenter's South America; Gulick's Town and City; Graded Literature, V and VI; Dodge's Geography, IV; Jones's Sixth; Builders of Our Country; How to Keep Well; Baker and Carpenter's Sixth; Frye's Complete Geography; Tarr and McMurry's Europe; Stoddard's Lectures; Poems of American Bravery (Mathews); Blaisdell's Hero Stories from American History; Jewett's Town and City; Tarr and McMurry's Geography, II; Eggleston's First Book in American History; Tanglewood Tales; Hawthorne's Wonder Book; The Man Without a Country; Grandfather's Chair.

Seventh year

Courtship of Miles Standish; Snow Bound; Irving's Sketch Book; Evangeline; Rolfe's Tales from English History; Franklin's Autobiography; Great Stone Face; Tales of the White Hills; Burroughs' Birds and Bees; Lessons in Hygiene; Birds and Bees and Sharp Eyes.

Eighth year

Lady of the Lake; Julius Cæsar; Sohrab and Rustum; Gettysburg Address; Epoch Making Papers; Merchant of Venice; Lamb's Tales from Shakespeare; Washington's Farewell Address; Lincoln's Second Inaugural; Warner's A-Hunting of the Deer; Adams' Commercial Geography; Tarr's New Physical Geography; Webster's Reply to Hayne.

V. READING TO PUPILS

The New York syllabus requires the teacher to read *to* the pupil during the first four years of the course. The subjects and books to be used for this purpose are suggested, and the four aims to be kept in view are enumerated as follows: "(1) To develop an interest in reading, (2) to cultivate the imagination, (3) to present a model of expression, and (4) to

create ideals of right living." While the requirements of the course limit such work to the first four grades, this investigation shows that the schools of one district voluntarily continue the same thru all the remaining grades. The following table exhibits the average amount read *to* children in each of the eight years:

Amount read to children

(Unit = 1,000 words)

Grade	1	2	3	4	5	6	7	8	Total
Amount	42	62	64	70	68	51	34	16	407

The books from which this reading is done are very numerous. We give a partial list selected from the returns:

First year

Stories to Tell Children; Pets and Companions; Legends of the Red Children (Pratt); Boston Collection of Kindergarten Stories; Rhymes and Fables (Haaren); Grimm's Fairy Tales; Tale of Peter Rabbit; Three Bears; Child's Garden of Verse; R. L. Stevenson Reader; In the Child's World (Poulson); Andersen's Fairy Tales; Æsop's Fables; Mother Goose Rhymes; Nursery Stories and Rhymes (Poulson).

Second year

Grimm's Fairy Tales; Book of Fables; Health of Little Folks; Scudder's Fables and Folk Stories; Month by Month (Willis and Farmer); All the Year Round; Five Minute Stories (Richards); Child Life, II; Parts of Children's Library Books; Stories to Tell to Children; Andersen's Fairy Tales; Stevenson's Poems; Famous Stories Every Child Should Know.

Third year

Black Beauty; Beautiful Joe; Young Folks' Fairy Stories; Hiawatha; How to Tell Stories to Children; Fifty Famous

Stories; Robinson Crusoe; Blue Fairy Book; Poems of Longfellow and Whittier; Little Lame Prince; Stories of Long Ago (Kupfer); Shy Neighbors; Granny's Wonderful Chair (Browne); Our Birds and their Nestlings.

Fourth year

Glimpses at the Plant World; The Wild World; Little Lord Fauntleroy; King of the Golden River; Boys of Other Countries; The Wonder Book; Alice in Wonderland; Arabian Nights; Joyous Story of Toto; The Dog of Flanders (Ouida); The Story of the Romans; Poems from Holmes; A Home Geography of New York City; Jungle Book.

Fifth year

Robinson Crusoe; Blaisdell's Story of American History; The True Story of Abraham Lincoln; Longfellow Leaflets; Heroes of American History; Captain January; Good Citizenship (Richman); The Story of Patsy; Swiss Family Robinson; Dole's The Young Citizen; Discoverers and Explorers (Shaw); Hoosier School Boy; Stories from Mark Twain; Nature Study Made Easy; Horatius (Macaulay); Ulman's Landmark History of New York.

Sixth year

Carpenter's Geographical Reader; Tarr and McMurry's Geography; Gordy's History of United States; McMaster's School History of United States; News Items Brought by Children; Ethics of Success (Thayer, Bk. II); Man Without a Country; A Girl of '76.

Seventh year

Legend of Sleepy Hollow; Story of Acadia; Chronicles of Tarrytown, etc. (Bacon); Literary Pilgrimages in New England; Dickens's Child's History of England; Rolfe's Tales

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from English History; Carpenter's North America; Mowry's English History.

Eighth year

Shakespeare; Literary Pilgrimages in England (Bacon); Plutarch's Lives; Literary Digest; Current Events; Poems of American Patriotism (Mathews); Open Sesame, II, III; David Harum; Rebecca of Sunnybrook Farm; Leak in the Dike; Fiske's American Revolution.

VI. RELATION OF QUANTITY, QUALITY, AND TIME

During the school year ending June, 1910, the writer made a personal examination of the reading ability of more than 15,000 children, registered in 333 classes. He is therefore able to compare reading efficiency with the time devoted to reading. The results were recorded in each class at the time of the visit and were afterwards summarized by schools. The success of the reading was indicated by letters, as follows: A, B+, B represent satisfactory work, A being the highest grade; C and D represent unsatisfactory work. In the table which follows are shown in close juxtaposition the number of the school (fictitious), the amount read in eight years, the average time allowance per grade, and my estimate of the reading of the school. Only eighteen of the twenty-three schools are included in this comparison because five of the number lack one or more of the upper grades.

Comparison of Time, Quantity, and Quality

School	1	2	3	4	5	6	7	8	9
Amount	1017	830	781	1146	1269	653	729	978	956
Time	248	232	240	244	235	240	233	336	206
Proficiency	B	B+	B+	C	B+	B+	B+	B+	B

(*continued*)

School	10	11	12	13	14	15	16	17	18
Amount	988	813	948	1784	917	923	1147	1270	816
Time	331	233	281	252	251	252	248	236	236
Proficiency	B	B+	B+	B+	B+	B+	B+	B	B+

So far as time and efficiency are concerned, this table demonstrates once more the well-known principle that educational success is due far more to masterful administration than to the individual ability of teachers. The four schools marked B employ on an average 255 minutes for reading, the twelve schools rated B+ use only 252 minutes, while the C school has 244 minutes. It will be recalled that Dr. Rice in his spelling investigations discovered similar conditions. The school that had only six minutes a day could spell quite as well as another that had fifty minutes. Expert supervision is the dominating factor of the educational situation. In a well-supervised school the children are proficient in their studies; in a poorly supervised school they are deficient. This proposition has no exceptions, and holds, within limits, irrespective of the time that may be devoted by the course of study to any given subject.

A comparison of quantity and quality seems to indicate that fluency in reading varies indirectly as the amount read. The B+ schools read on an average 968 units in eight years. The B schools read 1,057 units. The C school reads 1,146 units. This indicates that when too much is attempted the quality deteriorates. If you test the children of a class that has read an abnormally large amount, you generally find them deficient. They do not know the meaning of words and therefore read without fluency and without proper expression. They confirm your suspicion that they have not been *taught* reading, but have been merely dragged over the ground. Such work is inefficient and demoralizing. In the first place it discourages children and oppresses them with a sense of failure. But the essential thing is to establish in the child the habit of success, which can only be accomplished by giving him a finishable job. Lessons must be so simple that they can be accomplished, and so interesting that they awaken enthusiasm. In the second place, going too fast with children begets superficial habits and inaccurate knowledge. This is one of the sins laid at the door of the American school by European observers. We must therefore avoid the fault of undertaking too much as well as the fault of doing too little. According to this study, the best

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results are obtained by schools which read in the several grades the amount indicated in the following table:

Average amount read by the best schools

(Unit = 1,000 words)

Grade	1	2	3	4	5	6	7	8	Total
Amount	29	62	120	200	200	168	90	107	976

VII. DRAMATIZATION

The possibilities of dramatization have only recently been realized to any considerable extent by the elementary school. The main purpose of the exercise is to put meaning into words. Meaning consists of thought and feeling. The theater is a very potent factor in human society. From the dramatic dance of the savage to the Shaksperean play we have an illustration of how man tries to realize and express the infinite variety of human emotion, and the evolution of motive into action. The child's play is a "continuous performance" in the theatrical sense. With such an instinct in possession of the infant soul, why should the school longer neglect to employ so useful an agent in the service of education?

Particularly useful is dramatization in a cosmopolitan city like New York, where the schools are crowded with foreigners and the children of foreigners. My own district is not known as a community of foreigners; yet ten per cent. of our children are Italians and possibly twenty-five per cent. are Hebrews of foreign parentage. The spoken and written symbols that are thrust upon children in such profusion have in many cases little or no content. The teacher vainly imagines that words "mean what they say." This is never the case. Her words carry her mature experience. The books children read convey meaning packed into them by an adult writer. To the child, especially the child from a foreign or uncultured home, words have often but little significance. Convince yourself of this by asking a pupil to explain the meaning of words found in his books. One was asked to tell what were the "Oxford Provisions."

He replied: "Salt, beef, ham, bacon." Another was told to explain what a city of refuge was for. He said: "When a man had been murdered accidentally, he might jump up and run to it." I picked out eight words at random from a page of Longfellow's "Miles Standish" which a class had read, and asked for their meaning. About one pupil in ten could answer.

When children "act out" a story, the words give up their real meaning. This is true whether the subject be a nursery rhyme, a fairy tale, a play, or an episode in history. I have been encouraging dramatic exercises in my district for some time; but these returns show a far more extensive use of them than I had suspected. Considerably *more than half* of all the classes have had dramatization. In one school, out of forty-seven teachers reporting, all but three have dramatized. Below will be found a selection of some of the pieces in each grade that have been dramatized in these schools. The report does not include the dramatic reading that is insisted on in the regular reading hour, nor does it include dramatic reading done by teacher or children in reading to the class.

There is one serious danger against which a note of warning should be issued. The tendency in school dramatics is to become theatrical; to put the emphasis on showy effects; to dress children up in fancy costumes; to exhibit them before the public. School work of any kind degenerates and loses its educational value as soon as it is used primarily for show purposes. This is true of dramatics no less than of other exercises. Therefore, keep the work simple. Confine it chiefly to the classroom; and remember that its primary purpose is to make vivid the meaning of what is read.

From the reports submitted, the following selection of pieces dramatized in the several grades is made.

First grade

The Wind and the Sun; The Fox and the Grapes; The Three Goats; Little Boy Blue; The Three Bears; The Three Little Pigs; The Straw, the Coal, and the Bean; The Butterfly;

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The Organ Grinder; The Hare and the Tortoise; The Dog and His Shadow; The Lion and the Mouse; The Thrifty Squirrels; Little Jack Horner; Henny Penny; Puss in Boots; The Dove and the Bee; Five Little Chickadees; Johnnicake; Old Mother Hubbard; Lambikin; Jack and Jill; Simple Simon; Tom Thumb; The Beehive.

Second grade

The Wolf and the Seven Kids; Chicken Little; Jack and the Beanstalk; The Little Red Hen; Billy Binks; How Mrs. White Hen Helped Rose; Little Shepherdess; Drowning of Mr. Leghorn; Starving of Mrs. Leghorn; Little Red Riding Hood; Sleeping Apple; Three Billy Goats Gruff; The Owl and the Grasshopper; The Pied Piper; The Elves and the Shoemaker; The Boy who cried Wolf; The Pigs and the Giant; Little Gingerbread Boy; Sleeping Beauty; The Little Pine Tree; Washington and the Cherry Tree; The Brahmin, the Tiger, and the Jackal; Hansel and Gretel; Clytie; Little Match Girl.

Third grade

Pinocchio; The Magic Swan; Hiawatha; The Crow and the Pitcher; A Visit from the Months; What Mrs. Squirrel Thinks; The Ant and the Mouse; How to get Breakfast; The Spider and the Fly; Two Little Kittens; The Blind Man and the Lame Man; The Town Musicians; The Golden Touch; Cinderella; Tillie's Christmas; The Captain's Daughter; Pandora's Box; The Leak in the Dike; William Tell; The First Woodpecker; The Frog and the Ox; How the World Came to an End; The Fisherman and His Wife.

Fourth grade

The Honest Woodman; The Town Mouse and the Country Mouse; The Miller of the Dee; The Bell of Atri; Rip Van Winkle; The Book of Thanks; Supper at the Mill; The Boy Who Tried; The Brave Drummer Boy; How Andy Saved the

Train; The Emperor and the Abbot; The Stolen Child; The Cat and the Mouse as Partners; How Jack O'Lantern Frightened away the Indian; The Coming of Hudson; Settlement of Manhattan; Daniel Webster's First Case; The Story of Joseph; How I Turned the Grindstone.

Fifth grade

The Fox and the Horse; Christian and Apollyon; Christmas at the Cratchits; The Buying of Manhattan; Selection from "As You Like It"; Selection from "A Midsummer Night's Dream"; Columbus; The Jackal and the Partridge; How the Thrushes Crossed the Sea; Surrender of New Amsterdam; Saving of John Smith's Life by Pocahontas; Salem Witchcraft; The Pilgrims; The Snake Skin and the Bullets; Braddock's Defeat.

Sixth grade

King of the Golden River; Moses at the Fair; Departure of the Clermont; Horatius at the Bridge; Arnold the Traitor; The Miraculous Pitcher; Betsy Ross; Nathan Hale; Boston Massacre; John Brown; Barbara Frietchie.

Seventh grade

Christmas Carol; Courtship of Miles Standish.

Eighth grade

Julius Cæsar; Merchant of Venice; Evangeline; The Bird's Christmas Carol; Lady of the Lake.

JOSEPH S. TAYLOR

DISTRICT SUPERINTENDENT OF SCHOOLS
NEW YORK

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V

REORGANIZATION OF SECONDARY EDUCATION[1]

The present plan of organizing public secondary education in the United States is irrational and wasteful. It can find no real basis in history, psychology, or logic. Neither does it have the support of contemporary practise in other enlightened countries of the world. In its form and administration it stands alone, but it is unique in ways which are open to much severe criticism. There is a growing and insistent demand that conditions be changed, that our entire public school system be reorganized in the interest of economy of time and administration, adaptability to individual needs, training for specific personal aims, and extension of social welfare.

If one looks to history for an explanation of the present system, one is forced to turn away unsatisfied. Historically, even in America, secondary education has never till recently meant four years of school work superimposed upon a required elementary course of eight or nine years. Nor has admission to the secondary school ever till recently presupposed a greater knowledge than a reasonable familiarity with the school arts. The records of the colonial Latin grammar schools and of the old academies show this. It was not till well down in the nineteenth century that any noticeable departure from this custom was made. In 1821, when the first high school in America was established, the sole terms of admission were ability to pass examinations in reading, writing, arithmetic, and English grammar.

With the rise of the later academies and the differentiation of the English course in the high school from the classical course the period of pre-secondary education was prolonged. Colleges increased their requirements for admission. Sec-

[1] This article is to appear shortly as a chapter in the textbook, *The course of study*, edited by Charles H. Johnston.

ondary schools, following the suggestion, became more exacting with the elementary schools. But the elementary school as then organized was unable to meet the demands. The elementary school year was short; the elementary school teacher was poorly trained; pedagogical methods were inferior. Hence annual progress was slow. Thus it was that two, four, six additional years were added to training in these school arts. For a period there was little uniformity, but finally the course eventuated in the present elementary régime of eight or nine years.

If one turns to European countries for suggestions there is little encouragement. Current practises there lend no support to the policy of postponing entrance upon secondary school work until the completion of eight or nine years' elementary study, or until the youth has attained the age of fourteen or fifteen years. Neither do the school systems of foreign countries limit the typical course of secondary instruction to four years. Germany, France, and England have, almost from the very outset, provided secondary schools that have been organized on the basis of six, seven, eight, or nine years courses. Recently Japan has reorganized her school system upon this principle. In none of these countries is a youth required or expected to complete an eight or nine year elementary course before being admitted to the secondary school. In none of them does an undifferentiated elementary course extend beyond a period of six years, and usually a student enters upon the work of the secondary schools at the age of nine or ten years.

Again, the present mode of organizing and administering educational work in America is psychologically ill-grounded. The adolescent period begins usually at about the age of twelve years. With the dawn of this new period come most notable changes in physical form, structure, and function and most decided concomitant psychological changes. At this period self-consciousness is born. The interests that formerly held dominant sway are cast aside. New motives stir, new aspirations fire, new goals beckon. Conscious logical reason begins to proclaim itself. The mind is no longer satisfied with mere

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empirical facts, but it demands that the facts be presented in their essential relations. There is also a restlessness and a desire for movement. Individuality begins its play and demands a larger circle in which to assert and express itself. Implicit obedience and conformity to laws and rules arbitrarily imposed can no longer be secured. The purpose and necessity for restraint must be made clear and intelligible; if not, tacit or open rebellion ensues. The youth's whole nature calls out for room—more room.

To enforce unnatural restraints upon an adolescent is to deaden his sensibilities, stifle his intellectual and his social enthusiasm, and atrophy his powers. To keep him under the restrictive and arbitrary discipline of the ordinary elementary school is to sin against nature and to commit an offense against the laws of social well-being. To employ with him the methods of instruction and training of the elementary schools is to provoke him to truancy, encourage him to evade school work, and impel him to forsake school duties altogether. The beginning of adolescence is most emphatically the beginning of the period of secondary education. As our schools are organized and administered today this fact is ignored.

Thirdly, there is no reasonable basis for organizing our school work as it is. Reason would assert—historical and psychological considerations aside—that the schools should be so organized and administered as to meet the needs of the greatest numbers of persons for whom they are nominally designed. Instead of preparing each pupil as fully as possible for the position in society for which his aptitudes, interests, and resources make him most fit, our system forces or permits a deplorable number to leave school and become, for the most part, either discontented misfits or else hardened, unaspiring, inefficient citizens. Here is a sheer loss of an astoundingly large per cent. of the raw material during the process of production. Any private manufacturing industry that should, because of operating methods, lose or cast aside from its unfinished product one-tenth of what is lost thru the maladministration of our school system would be forced into

voluntary or involuntary bankruptcy in an incredibly short time—and it ought so to be.

No school system, any more than any machine, can be operated without some loss. Nevertheless, it is possible greatly to minimize the losses incident to the administration of a system irrationally organized. An organization that needlessly and knowingly duplicates efforts; that continues to emphasize much that is non-essential to life's interests and impracticable for boys and girls at the time the subject is presented to them; that neglects to afford opportunity for the discovery of real individual aptitudes or to stimulate and develop them when revealed; that permits dangerous gaps and openings to exist between the sections of its course; that allows no individual to be ranked or classified any higher than the standard made in respect to his smallest and most insignificant talent; that insists upon a perfect knowledge of the tools of the mind without permitting, during school hours, the employment of those tools to any permanently useful end; that incessantly drills upon forms without furnishing any nourishing content to fill the forms; that, in short, continues to postpone indefinitely from day to day and year to year a real education and emphasizes the process of ever preparing for an education—such an organization is certainly not based on logic. Such, however, has been, and still is, the character of much of our so-called education of the elementary school in particular and of the high school in general.

The present organization of our public schools harks back to the days of the free academies which arose shortly after the close of the Revolutionary War. Many of these institutions offered a curriculum which began with the veriest elements of learning and ended with subjects that are now found in the colleges. The academies early adopted the practise of grouping the work into departments, as, for example, the first primary, second primary, intermediate department, grammar department, academic department, and collegiate department. Each of these departments included the school work of two or three years. Inasmuch as the entire course was planned to occupy the time from about one's eighth or ninth year of

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age up to his eighteenth or twentieth year, the course came to be one of about ten or twelve years in length. Thus the academic work of two, three, or four years came to rest upon a pre-academic study of eight or nine years.

With the rise of public union schools the form of the academies was adopted almost unconsciously. So also was the nomenclature. Gradually the expression "high school" took the place of the "academic department," and the later school inherited all the traditions, ideals, and customs of the earlier one. Thus it was that temporary expediency, followed later by unreflecting imitation and blind conservatism, saddled upon America a system of public education that consists almost everywhere of a high school of four years resting upon an elementary school course of eight or nine years. Thus it was established that the only door opening into the high school led out from an elementary school of eight or nine years' continuous tuition. There was no alternative course offered—eight years to get ready for an education and *then* four to acquire the education—or perchance to *prepare* further for an education that was still remotely beyond.

Not until recently was any attention given to individual aptitudes and capacities. Straight ahead for at least one year each was obliged to go, advancing one stage to continue the process, or else, in case of failure, going drearily over the former course another year. There was no differentiation; all subjects were demanded of every pupil, whatever were his ambitions or his life's plans. All the work was formal, and, to the majority of students, devitalized, tedious, and aimless.

Only within the past twenty years has concerted effort been made to improve these conditions. Dissatisfaction with the old order first found expression in the Report of the Committee of Ten in 1893. An enriched curriculum, a flexible curriculum, and an articulating curriculum were their demands. The report also urged the extension of certain well-recognized secondary school subjects down into the elementary grades, the departmentalizing of some work below the high school, and a corps of better trained teachers employing better pedagogical methods.

The committee thru its report set up ideals. Here and there serious efforts were made to put the suggestions into practise, but in many respects improvement has been slow. The conviction has steadily grown, however, that complete reform can come only with a complete reorganization of the school system. A six year course for the elementary school and a six year course for the high school is the slogan for the more recent agitations. To lend support to this proposal the National Educational Association in 1905 appointed a standing committee on a six year course of study for high schools. For three successive years this committee has made an annual report, and sentiment is rapidly crystalizing in support of the above plan.

It may be well at once to present the indictment made against our present educational system. The counts are as follows: (1) The curriculum is overcrowded; (2) there is duplication and waste in administration; (3) there is little correlation of subject-matter; (4) exaggerated attention is given to unessential and impracticable topics; (5) many topics now presented have no legitimate place in any curriculum; (6) pupils are overworked; (7) the course of study is inflexible; (8) there is no close articulation of the elementary school with the high school; (9) individual tastes and capacities are not rightly considered; (10) promotions are based upon an unsound principle; (11) discipline is unsuited to the stage of development of the pupils; (12) teachers are improperly equipped; (13) pupils are influenced by too few different personalities; (14) methods of instruction are unpedagogical; (15) the study of many secondary subjects is postponed beyond the proper time for their best presentation; (16) work is not effectively vocational; (17) enormously large numbers withdraw from school; (18) insufficient attention is paid to the retarded pupils and to those of superior ability; (19) there is not sufficient hand work; (20) specific trade instruction is lacking; (21) the whole system is overmechanized.

This is the bill of indictment. It is being examined point by point by the grand jury—the people of the land—and a

true bill is being found. The duty devolves upon the experts in education to prosecute and to correct.

While some of the alleged unsatisfactory conditions are to be found thruout the entire system, and some few in the high school alone, the great plexus of evils is in the seventh and eighth grades. Here is the great battle ground of educational reform today. "Rearrange the work and administration of the seventh and eighth grades," say the propagandists, "and readjust the other grades to the reformed plan and the more oppressive evils of the entire system will have been eradicated."

The reorganization and remodeled administration of the work of the seventh and eighth grades therefore constitutes the crux of the problem. The analysis of the unsatisfactory conditions found has given rise to the idea of redividing the present twelve year course, six grades to constitute the elementary school, and six, the high school. The theory is that six years are amply sufficient to encompass the elementary ground, and that the seventh and eighth grades should assume the character of the high school and adopt its forms and methods. In addition, the new theory demands that the work of these upper six grades shall be reorganized thruout. What in detail should be the plan of reorganization thus proposed, and what advantages and disadvantages will issue?

First, what constitutes elementary, and what, secondary education? Dewey asserts: "The aim of the elementary school is wrong. It should not be knowledge, but to organize the instincts and impulses of children into working interests and tools. The stress should be on methods, not results. Not that we do not want results, but that we get better results when we transfer the emphasis of attention to the problem of mental attitude and operation. We need to develop a certain active interest in truth and its allies, a certain disposition of inquiry, together with a command of the tools that make it effective, and to organize certain modes of activity in observation, construction, expression, and reflection. Six years ought to be enough to accomplish this task." [2] Hanus

[2] *School Review*, Vol. 1, 1903, p. 18.

sums it up as follows: "The special aims of elementary education are:

"(*a*) To nourish the mind of the child thru the course of study which should comprise an orderly presentation of the whole field of knowledge in its elements, and to provide an opportunity for the exercise of all his powers, mental, moral, esthetic, manual, or constructive, thru good instruction and wise discipline; (*b*) to guard and promote his normal physical health and development." [3]

Thus it appears that elementary education, besides promoting and strengthening one's physical health, has for its chief aims the opening of the mind to the entire world in its elements, the development of interests in the world and in its activities, and the fostering of desirable habits of mind and body. It should emphasize chiefly the formal aspects of education. Its mission is to prepare for further school work. Its end is *extra se*. It aims not at knowledge itself, but at supplying the tools of the mind and at inculcating attitudes and habits of mind that will enable the individual later to pursue knowledge and industry. As Dewey says, "Six years ought to be enough to accomplish this task." Recent experiments demonstrate that, in many cases at least, they are.

What now is secondary education? To this question Hanus replies: "The secondary school should especially promote the discovery and development of each pupil's dominant interests and powers; and further, it should seek to render these interests and powers subservient to life's serious purposes, and also to the possibility of participation in the refined pleasures of life." He adds: "The serious purposes of life are first self-support, or, when this is unnecessary, some worthy form of service; second, intelligent active participation in human affairs. . . . The refined pleasures of life are found in the ability to participate with intelligence and appreciation in the intellectual and esthetic interests of cultivated men." [4]

Elmer E. Brown, former United States Commissioner of Education, declares the "business of secondary education" is

[3] *Educational aims and educational values*, p. 17.
[4] *Ibid.*, p. 81.

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" to raise all subjects which it touches to the plane of science by bringing all into the point of view of organizing principles." In another place he says that the purpose of secondary education is " to seek an understanding of the living growing persons who go to school and to treat them in a way to promote their healthy growth. . . . This is on one side leading toward individualism; it demands free election of studies and individualized processes of instruction. On the other side, it shows how dependent the pupil is on society. Neither the future nor wholly the present are our concern, but both." [5]

The aim of secondary education is conceived by Liddeke as, " an elementary knowledge of facts, truths, and laws of relation in the domain of science, history, government, and literature; a fuller development of loyalty to the bettering influences, culminating in due time in seriousness of purpose; last and most important, depth of insight, sanity of judgment, and the power of adapting means to ends." [6]

Here then is the distinguishing characteristic of secondary education: It is that education which lays stress upon gaining a systematically arranged content of knowledge, and that seeks first to discover for each pupil his real dominant interests and aptitudes; and, secondly, so to train and develop these incipient powers that each may put into life as much social service as possible, and simultaneously derive from life as much personal satisfaction as may be. Trained individuality—that is, the end and aim of the secondary schools; but a trained individuality that ever recognizes these principles: that individual progress and happiness are always dependent upon the progress and happiness of all the other members of the social group, that whatever serves the best interests of the social whole serves at the same time the best interests of the individuals who compose that whole, and that the distinguishing characteristics of individuality are a trained and accurate judgment and a vigorous, persistent will. Active social cooperation, clear judgment, and effective execution are, however,

[5] U. S. Commissioner E. E. Brown. Tendencies in secondary education: *School Review,* Vol. 9, p. 446.

[6] *School Review*, Vol. 12, p. 636, 1904.

produced solely thru the repeated exercise of these incipient powers. Hence the prime function of the secondary school is to afford abundant opportunities for the development of these processes.

The realization of these principles demands, as previously suggested, that the high school curriculum be extensive in scope and rich in content; that the subject-matter be so organized and presented as to reveal its essential interrelations; that the administration of the school be so directed as to give opportunity for self-discovery and self-development; and that such agencies and methods be employed as will stimulate to some worthy form of social service and fit each individual, at least in a general way, to become an efficient worker in his chosen field.

To accomplish just these ends is the purpose of the present agitations looking to a modification of the public school system. Moreover, there can be little doubt that such a reorganization is at hand and that it is about to adopt the essential features of the equal division arrangement of grades. The six year high school is not an unknown institution today,[7] but heretofore, for the most part, it has arisen by extending the scope of the work upward to include two additional years, and has left the elementary grades unaffected. The present movement seeks to extend the scope downward, and is being stimulated by current reforms made in European countries and in Japan. Such a plan seems feasible, just, and advantageous. Under it the first six grades will constitute the universal school. In the second six years differentiated courses leading to various goals will exist side by side. Here the scope of the work will be as wide as human interests, but the principle of individual election of subjects will, to a considerable degree, have to be established. Here will begin the training in choice—the training of the judgment and the practical will, but obviously no individual should at the outset

[7] In 1909 twenty-two cities distributed over twelve different states profest to have their high schools organized on the basis of six years. Report of the Committee on a Six-Year Course of Study, *Proc.* N. E. A., 1909, p. 498.

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be given *carte blanche* in his elections. Power and strength come from the gradual exercise of independence, from choices supervised thruout the entire course.

Hence from the start provision should be made for at least five distinct groups of pupils. First, there will be those whose abilities, ambitions, and resources will lead them not only to aim at completing the full high school course of six years, but also at attaining a college education as well. Secondly, there will be a fairly large class whose scholastic interests and ambitions will lead them to pursue systematic study no further than high school graduation, but who, nevertheless, may, without hardship, defer the choice of a vocation until graduation. A third group will be composed of those who are enabled to complete the high school course, but whose circumstances necessitate the choice of a vocation immediately upon leaving school. These must, therefore, receive their systematic vocational instruction, if at all, before leaving the high school.

A fourth class will be those who may continue their schooling a year or two beyond the compulsory school age, but who probably will not complete the entire course. These, like those in class three, must obtain whatever practical training and vocational insight they are to receive while yet in the public schools, and must obtain their training at a relatively early stage. Finally, there will be a fifth class, a very large class, who will leave school at the end of the compulsory school age and go at once into the industries. This class in the past has received least consideration. In the newer régime its members will be put on a parity with all the other classes, equal educational opportunities for every individual in the state being a practical ideal.

This grouping suggests that the work of the newly constructed high school must correlatively be organized into at least five fundamental courses of study. These are:

1. *The college preparatory course,* offering considerable work in English, foreign languages, mathematics, science, history, manual training, and other academic branches.

2. *The general course,* affording opportunity to explore

many fields of learning, but wisely requiring concentrated attention upon at least one of them. In this course would also naturally fall subjects in applied arts for girls, and domestic science.

3. *The commercial course,* laying emphasis upon the various branches that relate peculiarly to business and to commercial interests and administration, but not neglecting the branches essential to a broad general outlook.

4. *The short business* or *clerkship course,* giving an opportunity to such as demand it to fit themselves for positions as clerks, stenographers, and secretaries within the maximum period of four years, and enabling them thus to complete their schooling at the end of the tenth grade.

5. *The industrial* (or *agricultural*) *course.* This course would doubtless in most cities have to be differentiated into four sub-courses, viz.:

(*a*) General industrial work for boys, giving a training in general mechanics for those whose aim is to work in factories with machinery.

(*b*) General industrial work for girls: a course coordinate with the general industrial course for boys.

(*c*) Trades instruction for boys, giving instruction and training to such as will own their own tools and work for themselves. Here would be found such instruction as blacksmithing, laundering, and tailoring.

(*d*) Trades instruction for girls, correlative with the trades course for boys. Here would be taught millinery, dressmaking, library work, nursing, cigar making, and similar vocations.

This arrangement of courses frankly recognizes vocational instruction as having a legitimate place in the public school system. Believing as we must in the democratic principle that no person can ever acquire too much education of the right kind, and believing further, that in a democratic state every member should be given equal opportunities to secure an education commensurate with his aptitudes and ambitions, we must of necessity believe that it is incumbent upon the state and to its own best interests that it provide a system of educa-

tion that shall appeal, thru its varied subject-matter, to every class of individuals. Not to do this would savor of aristocracy, not democracy.

If the work of public secondary education is to begin with the seventh grade, certain changes in the administration of the schools will be necessitated. There are four distinct methods of organization and administration that may be employed. Each offers some unique advantages. Each lends itself to adoption *in toto,* or in combination with the essential elements of each of the others. These four methods are:

(1) Continue the external form of the schools as it is today, but introduce into the seventh and eighth grades the principles now obtaining in the administration of the high school.

(2) Bring the seventh and eighth grades into the high school building, and organize and administer all work above the sixth grade as a unit, both respecting external form and internal operations.

(3) Make a complete differentiation of schools and of subject-matter from the very beginning of the seventh grade.

(4) Group the seventh, eighth, and ninth grades by themselves as a junior high school, and tenth, eleventh, and twelfth grades by themselves as a senior high school.

The first method leaves the elementary schools outwardly in much the same condition as today. Each would continue to serve the general educational needs of the district in which it is located. Pupils would be expected to complete the course of study in the neighborhood school and then, if they so chose, to pass to the high school building. Nevertheless, under the new plan of organization the general principles of administration now found in the high school would be carried down into the seventh and eighth grades of the ward schools. Here would be provided a modified form of departmental teaching, an enriched curriculum, a closer approach to the idea of student responsibility, greater flexibility in promotion and other practises characteristic of secondary education.

A system of this kind is feasible and advisable in small towns and cities that are relatively homogeneous in character

and interests. In communities composed of heterogeneous classes possest of widely differing interests, the plan offers difficulties. If, however, these classes are somewhat segregated geographically, and if the population of the town is such as to require the employment of several elementary school buildings, most of the obstacles can readily be overcome. The solution obviously will be to differentiate the work among the seventh and eighth grades of the various elementary schools. In each school would naturally be found all of the fundamental subjects of study, but beyond these each school might well be organized so as to lead to a more or less definite goal. Thus, in the seventh and eighth grades of one building, the preacademic subjects may be emphasized; in a second building elementary commercial studies may constitute the center of work; and in a third building attention may be given largely to industrial training.

Naturally, this reorganization of the work of the seventh and eighth grades would require some correlative changes in the organization and administration of the upper four grades. Close articulation would be essential. Other adjustments would also be necessitated. The problems, however, which arise here are precisely the problems that will arise in connection with one of the other plans for reorganization, and may be considered later. It is clear, though, that this entire first plan is full of objections. It is a makeshift at best. In homogeneous communities of small size it is workable; in heterogeneous communities of larger size, it is cumbrous and awkward. Its only claim for consideration is that it is economical.

The second scheme for organizing the new type of school is to segregate all pupils above the sixth grade in one school building—the high school—and there organize the work in several parallel courses. This plan merely takes the seventh and eighth grades out of their present setting and merges them with the present high school. They thereby are brought fully under the principles of administration dominating in present-day secondary education. Departmental teaching, limited election of studies, scientific methods of instruction,

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a freer spirit of regulation and control, all are to be henceforth the birthright of the seventh and eighth grade students as they are at present of the pupils of the four upper grades.

This second arrangement is adapted to the conditions and needs of towns of moderate size. Wherever one high school building can accommodate all pupils above the sixth grade the plan is highly commendable, as it affords the maximum of benefit at the minimum of expense. Towns of 8,000 inhabitants or less can, with almost no difficulties, reorganize their school systems on this basis. The efficiency of the school thus reorganized will many times repay the small additional expense entailed.

In the third alternative scheme a differentiation in aim, in subject-matter, and in buildings is implied at the outset. From the sixth grade the ways diverge. All school work beyond this is organized not in separate and distinct courses within a single school, but in separate and distinct schools themselves. The number and variety of these is obviously to be determined by the demands of the pupils. This plan will best serve the interests of the large city. Ordinarily in its complete organization it will call for seven distinct types of schools. The number of each type required for any given system will depend, of course, on local conditions. These seven general types are: First, the college preparatory school; second, the engineering school (the manual training school); third, the high school of practical arts for girls; fourth, the high school of commerce; fifth, the business school; sixth, the trade school for boys; and seventh, the trade school for girls. In some sections there will be need for a school of still different type, the agricultural high school.

Little adverse criticism directed against this system is possible. If provision be made for the free choice of the type of school to be attended; if attendance on classes in two or more schools by the same pupils be permitted, or, on application, elected subjects be incorporated in the curriculum of each school; and if, finally, the daily transportation of pupils to and from schools be borne by the municipality whenever necessary, this plan is desirable. Whatever may be the in-

trinsic merits of the other plans, for cities like Boston, Philadelphia, New York, Chicago, St. Louis, and San Francisco, they are impracticable. Indeed, for any city of 100,000 inhabitants or more this third plan, with slight modifications, is alone feasible. The charge that any system of schools which seeks to differentiate the work in separate buildings is undemocratic, tending to introduce class distinction, is beside the mark. Providing for individual aptitudes and interests under separate roofs is in essence no different from providing for individual aptitudes and interests in separate courses of study under the same roof. Today the field of knowledge is wide; the demand for specialized training is insistent. Practically the two interests can not be made to coincide. Differentiation of some sort is inevitable. It is immaterial whether this take place between buildings, between courses in the same building, or between recitation classes in the same room.

The fourth scheme of reorganization calls for the division of the six high school grades into two equal parts, each division to occupy a building by itself and to be styled respectively, the junior high school and the senior high school. This plan seemingly possesses many advantages for cities and towns ranging in population from 8,000 to 100,000 inhabitants.

Since, in the nature of the case, the numbers enrolled in the senior school will always be smaller than those in the junior school, more ample provisions must necessarily be made for the latter. In cities in which one school of each class will meet the needs, it seems advisable that the two buildings shall be located in close proximity. Where this is done, the more advanced school will continuously serve as a tangible, visible stimulus to the pupils of the lower school. Under this arrangement, the work of the junior high school will include one grade that will fall beyond the limits of the compulsory attendance law. Since the work of this year, however, will be organized as a homogeneous portion of a continuous course, the tendency of the pupils to withdraw from school at the end of the compulsory period will be greatly

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minimized. Moreover, the ideals and spirit dominating the work of the senior school will, to a greater or less degree, be carried over into the junior school. If, in addition, a close articulation be established between the courses of the two schools, and if no special official recognition be given to those who have finished the compulsory school course and no "graduating exercises" be held at that time, it is safe to assume that many who would otherwise abandon school at this period, will be encouraged to continue their work, not only to the end of the junior school course, but on into the senior high school. It seems certain that this idea is destined to become popular. Indeed, it is already in successful operation in several cities, notably Berkeley, California, and Columbus, Ohio, and other cities are seriously considering its adoption.

In many towns in which a single senior high school will amply serve the needs a single junior high school will not do so. In these cities a modified plan, incorporating the usable elements from each of the other three plans will be necessitated. That is, two or more junior high schools offering similar or differentiated work, as local interests may dictate, may be required. Where this is the case, convenience will doubtless demand their distribution in the various sections of the district. Each of these four plans possesses peculiar advantages for different types of cities. The dominating principle is, however, the same, and by interpreting and applying this to the particular conditions, equally meritorious and efficient systems may be secured.

Every school building—the junior high school, senior high school, and the independent high school—should be provided with assembly halls, gymnasiums, classrooms, libraries, laboratories, art rooms, museums, and conservatories. Every junior high school, every elementary school used by the seventh and eighth grades, and every differentiated high school offering work in the manual arts or in the trades should, in addition, possess ample facilities for much hand work for both boys and girls. All schools should be provided with out-of-door recreation grounds or athletic fields, supplied with all necessary apparatus, and presided over by skilled directors

of sports. The administration of the work within any of these schools need not differ from the administration today employed in the best four year high schools. The principle of large individual election of studies must, of necessity, pretty generally prevail. Certain fundamental branches may rightly be required in every course, and in almost every grade in the course. For the rest, youthful judgment should be supervised, guided, and directed.

Time may well be taken at the beginning of every school year to consult seriously and sympathetically with every pupil respecting his aims, ambitions, and choice of studies. For this purpose, an advisory committee should be formed for every single individual. By this committee the curriculum of every pupil should be analyzed, and, if necessary, remodeled. As members of this committee should invariably be found the following persons: (1) The student himself, who should be encouraged to give free expression to his ambitions, purposes, and likes; (2) the parent, parents, or guardian of the student, who should make known the parental desires, the resources at the student's service, and the cooperation that may be expected from the home; (3) the pupil's former teacher, or teacher-adviser, who should be able to present a fair judgment of his abilities, aptitudes, and habits; (4) the prospective teacher or teacher-adviser, who should know the difficulties that lie before him and should be able to advise respecting them; and (5) the principal of the school who, as moderator, should harmonize the conflicting or varied considerations and direct the boy along the course best suited to his needs. The administration of a project of this kind will require time, patience, and judgment, but it can be made of inestimable value. If necessary, the whole month of August (or late June and early July) should be devoted to this work rather than that it should not be done at all, and adequate special compensation should be provided for such services.

In each type of the newly organized secondary schools departmental teaching should invariably be provided for every grade. The reasons for this change are obvious. No teacher,

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however well adapted for her work by nature or however well prepared by training, can teach a variety of subjects equally well. There must be concentration of efforts. The really efficient teacher requires time for intensive and extensive preparation for each lesson and energy for vitalizing classroom procedure, for disposing of routine duties, and for inspirational reading, social intercourse, and relaxation. These means to continued growth are imperative for all. The more experienced and skilful a teacher becomes, the more fully are these truths recognized and the more completely are they realized. Trained skill alone can never produce a teacher of highest merit and power, but for successful teaching of adolescents specialized training and expert knowledge are absolutely essential. Before the inquiring critical mind of the developing youth no teacher can stand firmly who can not inspire pupils with the confidence which a mastery of the situation affords. Departmental teaching in the seventh and eighth grades can insure the high standard of scholarship which is an obvious professional necessity.

By departmentalizing this work other highly desirable qualities in teachers can be assured. By making the salaries of the teachers of these two grades from ten to twenty per cent. higher than the salaries of the teachers of any other grades in the system, qualified candidates will soon be available. The new recruit, the mediocre teacher of experience, and the cold, egoistic specialists may be tolerated on the instructional staff of youths whose school habits have been somewhat definitely fixt, whose course in school has been pretty clearly determined, and who have acquired a fair degree of independence, judgment, and self-direction. But from junior high schools these types of instructors should be rigidly barred. Many pupils will be lost to the schools during the adolescent age under the best of conditions, but inspiring teachers, much handwork, and much physical exercise and play should reduce the loss to a minimum.

There are additional advantages to be derived from this departmentalization. First, such an arrangement permits pupils daily to come under the influence of several dominating

personalities. Child nature is extremely impressionable. One all-powerful influence at this time may set the form beyond reshaping, whereas the influence of several personalities with their inevitable elements of difference will tend to harmonious development. One-sidedness in early youth, however noble the controlling characteristic, is undesirable.

The departmental organization likewise helps to satisfy the inherent impulse for movement. Pupils at this stage demand change of environment, change of bodily posture, and variety of teaching methods. Under the departmental system the passage of pupils from room to room, the changes in environment found in those rooms, and the differences in voice, manner, and methods of the several teachers provide needed variation in school life. Under it a freer discipline than exists at present is possible. Today when one division of pupils is required to be independently occupied at their seats while a second section is engaging the immediate attention of the teacher, an approach to military discipline is inevitable. This damper on social intercourse frequently stifles interest and checks natural development.

The true principle of growth has, in theory, long been recognized as that of self-activity. The true aim of any school is gradually to transform the dependent being into the independent, self-directive individual. Independence comes, however, from the exercise of power, not from its repression. Prolonged dependence is destructive of personal judgment and personal initiative. Under a system in which this principle holds sway there can be no spontaneous nor perfect growth. Activity here receives its stimulus from without, and weakness, not strength, timidity, not courage, a tendency to uniformity, not individuality ensue. The exaggerated employment of this principle accounts in no small degree for that abuse of freedom witnessed so often among boys and girls as soon as they emerge from the system. They are wholly incapable of wisely assuming responsibilities when external authority is removed. The new plan offers facilities for obviating these evils of discipline. Under it much of the free spirit, order, and motivation that characterize adult social inter-

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course can be introduced, and gradually the pupil may be trained in self-direction. Social cooperation becomes the key word of the system.

Again, the proposed scheme of reorganization will render the administration of school work much more flexible. Today the administration of the seventh and eighth grades is too often criminally rigid. Promotion is commonly made by grade, or half-grade at the best. Little account is taken of the peculiar interests and talents of any pupil. Pupils who fail to attain the required standard in one subject are declared to have failed in all, and are forced to repeat the work of the entire grade, or half-grade. The youth of exceptional versatility and capacity is kept back with the rest. Such a process is deadening to any full-blooded individual. An anemic, timid, plodding boy may accept the unjust requirement without question, but he is injured nevertheless. The repetition of a dull routine from which all zest of novelty has been taken merely intensifies his subservience, and stifles his curiosity. On the other hand, the vigorous, individualistic, active boy recognizes the injustice and resents it. External force alone can then longer keep him in school, and even so, initiative will have been blunted, interest cooled, and accomplishments reduced.

Under the proposed plan promotions can be made semi-annually or quarterly, *by subject*. Moreover, in large schools with many sections in the same subject it permits the organization of classes for the supernormal (the A section), the normal (the B section), and the subnormal (the C section). By setting the class periods of the three sections all at the same hour transference from one section to another will be easy. Thus, for illustration, a pupil especially "apt" in mathematics, good in history, but of mediocre ability in English could enter the A section in the first, the B section in the second, and the C section in the third. His continued membership in any of these sections would be dependent on his progress *in that particular subject*. In this manner there would be neither undue advancement nor unjust retardation. Each pupil would proceed thru the course as rapidly as his

capacities and efforts would permit, or as slowly as his limitations necessitated.

In the lengthened school course many really secondary subjects can be begun one or two years earlier than is now generally possible, and can be continued till they will have yielded fuller benefits. Ancient languages, especially Latin; modern foreign languages; the simpler processes of algebra and geometry; elementary science; elementary sociology, political economy, and civil government; and, probably, the elements of other so-called advanced subjects can best be begun in the seventh grade. Educational psychologists and many foreign authorities assure us that the best time for beginning the study of these branches is at the dawning of the adolescent period. In England and Germany boys commonly begin the study of algebra and geometry as early as their eleventh or twelfth year, and seem to find no insurmountable difficulties. In fact, they often come to possess a firmer grasp of the subjects than do the majority of the graduates of our high schools. Beginning the study of foreign language in the early stages of adolescence is especially desirable. Then the language can be taken up naturally, as a native youth would begin it. Then simple conversation and the reading and writing of simple familiar words and sentences can constitute the methods of attack, whereas the sensitive self-consciousness of later life renders such a procedure difficult.

At this early age, too, pupils are intensely interested in the larger and more generally familiar questions of natural science, sociology, and political economy. This is the period for presenting to them the entire world in its elements and for inculcating in them desirable habits of reaction toward its various forms and institutions. Here is the proper time for introducing an elemental knowledge of sex and sex hygiene. Here properly belong also the beginnings of vocational instruction, and, for many, the beginnings of vocational training itself. Indeed, the only credentials of eligibility any subject should be forced to bring should be: Will its incorporation in the curriculum meet a real demand or fill a felt need?

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What shall be the guiding principles for administering a reorganized school of this kind? The answer is in part implied in reasserting that there shall be an enriched curriculum with a wide range of elective subjects, and departmentalized grade work. In addition the old-time recitation period will require modification. In the past too great an emphasis has been placed on memorizing facts, whereas the function of the school is to develop mental power and to habituate the possessor to applying this power to serviceable ends. There will always be a place for the drill-lesson, but it must no longer be permitted to monopolize school work. Preceding or supplementing it must be frequent study-recitations in which the subject is developed and mastered under the supervision of the teacher. Simultaneously or consecutively ample opportunities must be provided for converting this knowledge into faculty. No longer should impression be divorced from expression.

All this implies that henceforth a much greater burden of the school work must be borne by the teacher. "Hearing lessons recited" will constitute but a minor function. Henceforth the teacher must teach, and teaching calls for an inexhaustible supply of resourcefulness, tact, and knowledge. Henceforth correlation and vitalization must be fetishes of the classroom. Instruction, questioning, criticism, exposition, suggestion, example—all must be employed, but none of them to the detriment of pupil initiative and cooperation. Moreover, while correlation with kindred or similar facts of other school branches is excellent, constant correlation of school work with the pupil's life experiences is indispensable.

The curriculum of the six year school must obviously include fundamental subjects required of all pupils and optional studies open to individual election. What branches shall be constants and what variables, must of necessity depend somewhat upon local conditions and on the specific aims of the school. Two general principles should, however, be operative everywhere. First, each pupil leaving school, at whatever stage, must be given a systematic, many-sided, functioning education that is imperfect only in the sense that it is incom-

plete; and secondly, he must have received in addition a somewhat special training in a limited range of knowledge or activity. That is, each pupil must have a somewhat sharp focal point in school life and a relatively extended marginal boundary radiating from it.

Such an ideal, therefore, calls for a clearer classification of subject-matter. The departments of knowledge that should find place in the new program of studies are:

1. English language and literature
2. History, civics, and geography
3. Ethics and sociology
4. Mathematics
5. Ancient foreign languages
6. Modern foreign languages
7. Physical and biological sciences
8. Physiology and hygiene
9. Business administration and commerce
10. Commercial work
11. Mechanical and freehand drawing
12. Manual training (for boys)
13. Home economics, domestic science, and arts (for girls)
14. Music and fine arts
15. Voice culture, public speaking, and dramatics
16. Physical training
17. Agriculture and horticulture
18. Industrial training
19. Elementary philosophy

This curriculum, as extensive in scope as that of many a college, is advocated because the theory frankly recognizes the six year high school as a people's college. Within many of the departments here mentioned should also be found a further recognition of the fact that there must be a differentiation of content and of methods to meet the needs of the various social classes. Thus, the work in English language and literature should certainly be somewhat different for the boy preparing for college and for the one pursuing a commercial course or for the one seeking to prepare himself for a particular industry or trade. The same is true of mathematics, history, foreign languages, and other branches. This differentiation may come (in small schools it must come)

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in the regular classroom work itself. It, however, may come within divisions or sections of pupils pursuing the same branch of study in the same school; or finally the differentiation, as formerly suggested, may come between schools.

In the seventh and eighth grades each pupil's course of study should include: (1) English; (2) history, civics, and geography; (3) ethics and sociology; (4) physiology and hygiene; (5) mathematics (including arithmetic, algebra, and geometry); (6) elementary science; (7) manual training (or household economics, domestic science, and arts); (8) music and fine arts; (9) drawing; (10) voice culture, public speaking, and dramatics; and (11) physical training. In addition, opportunity should be given for one or two or three elective studies.

Obviously a course of study of this scope will require the abandonment of the old-time practise of devoting five class-periods per week to each subject. Indeed, educational theory advocates this. Psychological investigation has clearly shown the desirability of intense, but non-continuous mental stimulation. Under it there is secured an economy of mental effort, a greater variety and permanence of associations, more mental discipline, and a clearer and a more adequate comprehension of the subject. This fact is peculiarly true with respect to all studies that call for considerable perspective. Time is required for assimilation. By alternating periods of rest with periods of intensified attack, associations are multiplied and correlations strengthened. European peoples have for years acted upon this principle.

Correspondingly this change in hours of recitation demands a lengthened school day. Home study as it is now planned and administered in America is not assured, effective, nor economical. The proper place for learning lessons is in the school under the supervision of trained experts, not in the home amidst confusion with little or no cooperation or aid. Relatively few adults possess the capacity and energy to sit down and apply themselves to mental tasks that require undivided attention and individual efforts thru a long period of time. The immature youth can not be expected to do so.

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The great majority of one's ideas, habits, and feelings are prompted by force of suggestion, example, and instruction. Original thought and uninspired initiative are almost unknown. It follows that the greater the opportunity for study under expert supervision, with this fund of suggestions, examples, expositions, the greater will be the progress made. A school day that affords two or three hours for study of this kind is much to be desired. Indeed, an academic day extending from 8:30 A.M. till 4 P.M. (with a noon intermission of moderate length) seems to be feasible and desirable. In addition to this a recreation day extending from 4 to 5:30, in which supervised physical training and athletic sports shall be required of all, constitutes a workable ideal. Under such a system home study can be eliminated or at least reduced to a minimum.

An acceptance of the salient principles above suggested will lead to the adoption for our reorganized secondary school of a course of study that is at the same time extensive, intensive, and practical. Such a suggestive course of study is presented on the following page.

These then constitute the salient motives, principles, and plans for reorganizing the high school in America. The newer ideal possesses many improvements and advantages over the present four year school. Does it also offer difficulties and disadvantages? Some, but these are of little weight compared with the benefits to be derived from the adoption of the reconstructed plan.

First, the reorganization of the school system as suggested will require some additional expenditure—both at the transition stage and afterward in administration and maintenance. Well equipped, well administered high schools cost more than elementary schools. But the increased benefits (if we trust psychology, pedagogy, and experience) are well worth the extra burden. What increased tax levy can outweigh even one superior boy who may thus be discovered, aroused, and molded for large social service? Penurious economy in school work is false economy. There is no product America produces that is so valuable as its trained boys and girls. Many

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of the weaknesses and inefficiencies of our schools today are traceable directly to the stupid parsimony of the school boards, and to hazy conceptions of school administration.

A SUGGESTED PROGRAM OF STUDIES FOR A SIX-YEAR HIGH SCHOOL

	Subjects.	Grades 7	8	9	10	11	12	Total	Graduate work
		Hours per week.							
1.	English and literature.....	*4	*4	*4	*4	3	3	22	
2.	History, civics, and geography..	*3	*3	*3	3	3	3	18	
3.	Ethics and sociology.....	*2	*2	*2	—	—	—	6	
4.	Mathematics (arithmetic, algebra, geometry, trigonometry)	*4	*4	*4	3	3	3	21	
5.	Ancient languages—								
	(a) Latin	4	4	4	4	3	3	22	
	(b) Greek	—	—	—	4	4	3	11	
6.	Modern foreign languages—								
	(a) German	4	4	4	3	3	3	21	
	(b) French	—	4	4	3	3	2	16	
	(c) Spanish	—	—	4	3	2	2	11	
7.	Physical and biological sciences.	*2	*2	†6	†6	†8	†8	32	
8.	Physiology and hygiene.....	*2	*2	*2	—	—	1	7	
9.	Manual training (for boys).....	*3	*3	†6	†6	†8	†8	34	
10.	Home economics, domestic science, and arts (for girls).....	*3	*3	†6	†6	†6	†6	30	
11.	Business administration and commerce	2	2	4	4	4	4	20	
12.	Commercial work	3	3	†6	†8	†10	†10	40	
13.	Mechanical and freehand drawing	*2	3	4	4	4	4	21	
14.	Music and fine arts.....	*2	*2	2	2	2	2	12	
15.	Voice culture, public speaking, and dramatics	*2	*2	2	1	1	1	9	
16.	Physical training	*2	*2	*2	2	2	2	12	
17.	Agriculture and horticulture....	3	3	†8	†8	†8	†8	38	
18.	Industrial training	3	†4	†8	†8	†8	†8	39	
19.	Elementary philosophy.....	—	—	—	—	—	2	2	
		28‡	26‡	17‡	4‡	0‡	0‡		

Special work in any branch for which five pupils apply.

* Required subjects.
† Double periods with laboratory work.
‡ Indicates elective subjects may be added.

Moreover, no school should inaugurate this reorganization abruptly. By incorporating one element at a time as rapidly as circumstances will permit, the entire ideal can, in a rela-

tively short period, be actualized. Hundreds of schools have already taken one or more steps in this general direction. Departmental teaching in the seventh and eighth grades is no longer uncommon. The organization of the eighth grade with the high school, making it conform to these ideals and regulations, is an accomplished fact in many cities and towns. An enriched curriculum for the seventh and eighth grades is today somewhat general, while promotions by subjects and extra term promotions are frequent.

Altho the transition from the old organization to the new is, at least for our cities and towns, no difficult matter, in rural districts the facilities for thus reorganizing the school system are not so good. Even here, however, the obstacles are not insurmountable. The old-type district school is obsolete in theory, if not in fact. It once served a social need and served it moderately well. In few compact communities today is it either economical or adequate. Consolidated schools have in many states taken its place, and no one who studies the situation carefully can doubt that the consolidated or township school can advantageously be established in many other districts.

In consolidated or township schools an organization in harmony with the plan recommended could be put into operation with no greater difficulty than in towns or cities. Indeed, the consolidated school becomes virtually a town school. Transportation of pupils at public expense has already been provided in numerous instances. It works no greater hardship upon pupils and places no greater burden of taxation upon citizens than the old-time district schools. Consolidated schools (even as they exist today) are vastly superior in efficiency to those they have displaced.

Nevertheless, it would be unwise for each consolidated school to offer a curriculum as extensive in scope as the best city schools may well do. Here, as in the towns, differentiation must be employed. One consolidated school may, however, emphasize agriculture; an adjacent township school may lay stress on commercial branches; a third may offer more thoro academic training. By a system of county and state

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supervision and by a regulation permitting pupils who have attained the seventh grade to be transferred, at county expense, from a school of one type to a school of another type, in which are offered the studies he desires to pursue, the opportunity for the country boy or girl to receive an education in keeping with his or her taste and needs will have been made as complete as it is for the city youth.

From what has already been said, it seems clear that the reorganized plan would hold more pupils in school for a longer period; would better prepare every type of student for whatever further study he might undertake or for whatever vocation in life he might choose; would ameliorate the disciplinary and administrative burdens of all school officials; would make our system of education more nearly consistent with the well-established theories and facts of psychology, physiology, and pedagogy; and would be in harmony with the best practises of the more advanced peoples of the other parts of the world.

The movement looking toward an organization with the essential features similar to the ones above outlined is gaining momentum. I append the convictions of two well-known leaders:

Mr. Andrew S. Draper, Commissioner of Education for the State of New York, in an address before the Massachusetts Teachers' Association, November 26, 1909, spoke in part as follows:

"We believe that very generally the courses in the elementary school are too much prolonged, that the grades and the years are more than need be, that some unnecessary branches are included, and that some others are too attenuated, and that there are often more grades of textbooks than are desirable in one branch.

"Therefore we shall soon recommend an elementary course of study with but six grades and nominally occupying six years, instead of eight, in the confidence that it will be more, rather than less, educationally efficient.

"We would follow this great and universal elementary school system, so simplified and strengthened, with a system

of secondary schools, which for the present and in our state, shall be distinctly separated at the very beginning into three great classes: first, the present literary high school; second, commercial or business schools; and third, general industrial or trade schools.

"The schools of the third branch are of immediate interest now. We propose that they occupy buildings that look like shops; that they be taught by workmen who can teach rather than by teachers with a little mechanical skill; that to a moderate extent they use books which are really germane to the work to be taught, but that their main instruments be machinery and tools; that they be much more shoppish than bookish. We propose that these schools be of two general classes, namely, general industrial schools, training in general mechanics those who will work in factories with machinery and many other workmen, and, second, trade schools for those who will own their own tools and work essentially for themselves."[8] The salient features of this plan have since been incorporated into the New York system.

Superintendent Frank T. Bunker, of Berkeley, California, in recommending a plan of reorganization before the Board of Education, said: "The plan which I recommend involves reorganization and regrouping of the several grades of our school. Stated briefly, it is this: To have three groups of schools, one group (the high school proper) comprizing the tenth, eleventh, and twelfth years only; the second group, which may be called the introductory high school group, comprizing the seventh, eighth, and ninth grades only; and a third group of schools (the elementary schools proper), comprizing all children of the first six years.

"An examination of this plan will convince one, I think, that the division of the grades into three groups is a much more natural one than the arrangement under which we are now working. . . . Statistics show that the masses are held in school no longer than thru the fifth grade, and that at the close of the fifth grade they drop out in very large numbers, which means, educationally, that whatever is to be taught

[8] Taken from U. S. Commissioner's Report for 1910, p. 101-102.

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to the masses must be given in the first five or six years. . . . In the schools comprising this group I would have the course of study uniform for all children and somewhat narrow in its scope. . . . In the 'introductory high school' . . . children would enter at the period of adolescence when by nature they naturally crave an opportunity to dip into a wide range of subjects and activities. . . . I would have certain prescribed subjects for this group, but in addition thereto would permit as many elections as possible. . . . I should wish to see the work of this group made exceedingly rich in content and variety, and particularly in human interests. I should hope to see the work of this group relate very closely to life and be as far away as possible from that which is purely academic in education. I should wish much emphasis placed on learning how to study, how to use the library, how to get material from the same with expedition and judgment. If a child foresees that he wants to take German or Latin in the high school proper I would wish him to begin these languages when he enters this group and thus have six years of work in the same before he enters college. . . . I should wish to see the work of this group shaped up to make a more easy transition from the work of the elementary grades to the departmental work of the high school. In line with this, I should wish teachers assigned to work in these grades who have a broad culture and a wide experience in the grades. . . . If this work which I have outlined be carefully and efficiently done . . . the incoming student (to the high school proper) will have developed a much more serious attitude toward his work than obtains at the present time; will have oriented himself better, so far as his subjects are concerned; and the break will not be so great or so discouraging as with the plan under which we are now working. Moreover, the students entering the high school proper will have developed a greater cohesion than now obtains. With our present plan students dribble into the high school in small numbers and from many schools. They are wholly lacking anything approaching a community of feeling or a feeling of group responsibility. They have had no experience in organized ac-

tion and are not conscious of their individual responsibility in contributing to the establishment of a student body sentiment which shall be high and lofty in purposes and in its influence. . . . With three years of community life at the centers wherein the administrative methods are shaped to develop this responsibility, it would seem that the student would enter the high school proper at a much higher level with respect to student body morale than at present." [9]

This plan is today in complete operation in Berkeley, Calif.

CALVIN O. DAVIS

UNIVERSITY OF MICHIGAN

[9] From the pamphlet No. 2, p. 2-10.

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VI

CURRENT EDUCATIONAL PUBLICATIONS[1]

Ackroyd, Mabel (Bloomer). A year in the infant school; a year's scheme of work fully correlated. London, Glasgow and Bombay, Blackie and son, limited, 1911. 368p. 8°.

Alexander, John L., *ed.* Boy training; an interpretation of the principles that underlie symmetrical boy development. Introduction by Ernest Thompson Seton. New York, Association press, 1911. xvi, 200p. 16°.

American school hygiene association. Proceedings of the fifth congress, New York city, February 2, 3 and 4, 1911. Springfield, Mass., American physical education review, 1911. 188p. 8°. (Thomas A. Storey, secretary, College of the city of New York)

A collection of instructive papers on various important topics of school hygiene and sanitation.

Buisson, Ferdinand Édouard, *ed.* Nouveau dictionnaire de pédagogie et d'instruction primaire. Paris, Hachette et cie., 1911. 2087p. 4°.

A new and considerably amplified edition.

Draper, Andrew S. Religion, morals, ethics and the schools. Special theme. *In* New York (State) Education department. Seventh annual report, 1909-10. Albany, Education department, 1911. p. 481-521.

Elliott, Orrin Leslie. University standards and student activities. New York, The science press, 1911. 68-81p. 8°.

Reprinted from Popular science monthly, July 1911. The author suggests as an effective solution of the problem of relation of student activities to university standards, that the college take charge of its own affairs.

Falkner, Roland P. Some recent developments of school statistics. *In* American statistical association. Quarterly publications, 12: 566-587, June 1911. Also separately reprinted.

Deals mainly with data on retardation and elimination.

Ferraris, Carlo F. Di alcuni caratteri internazionali dell' istruzione superiore. Roma, Tipografia della R. Accademia dei Lincei, 1911. 511-534p. 4°.

Great Britain. Board of education. Secondary and university education in France. London, His Majesty's stationery office, 1911. xi, 554p. 8°. (Special reports on educational subjects, vol. 24)

[1]Compiled by John D. Wolcott, specialist in charge of the Library of the United States Bureau of Education, to which books and pamphlets should be sent for inclusion in this record.

Kansas. Department of public instruction. School buildings, school grounds, and their improvement. Kansas, 1911. Issued by E. T. Fairchild, state superintendent public instruction. Topeka, State printing office, 1911. 115p. illus. 8°.

Kirkpatrick, E. A. The individual in the making; a subjective view of child development with suggestions for parents and teachers. Boston, New York [etc.] Houghton Mifflin company [1911] 339p. 12°.

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National association of manufacturers. Committee on industrial education. National association of manufacturers; report of Committee on industrial education, presented at the sixteenth annual meeting, New York, May 15, 16 and 17, 1911. [n. p., 1911] 11p. 8°.

Paulsen, Friedrich. Pädagogik. Stuttgart and Berlin, J. C. Cotta'sche buchhandlung, nachfolger, 1911. viii, 430p. 8°.

"The discussion is divided into two parts, viz., 'Die bildung des willens' and 'Die unterrichtslehre.' It is preeminently a work for earnest students."—Nation, August 24, p. 171.

Robison, Clarence H. Agricultural instruction in the public high schools of the United States. New York, Teachers college, Columbia university, 1911. 205p. 8°. (Teachers college, Columbia university. Contributions to education, no. 39)

"List of references": p. 191-200.

Ruediger, William C. Agencies for the improvement of teachers in service. Washington, Government printing office, 1911. 157p. 8°. (U. S. Bureau of education. Bulletin, 1911, no. 3)

Smith, David Eugene. The teaching of geometry. Boston, New York [etc.] Ginn and company [1911] 339p. illus. 12°.

Thompson, Mary E. Psychology and pedagogy of writing; a résumé of the researches and experiments bearing on the history and pedagogy of writing. Baltimore, Warwick and York, 1911. 128p. 12°. (Educational psychology monographs)

Washington (State) Department of education. Consolidation of rural schools and transportation of pupils. Olympia, Wash., E. L. Boardman, public printer, 1911. 120p. illus. 8°. (*Its* Bulletin, no. 7, August 1, 1911)

Written by J. M. Layhue, assistant superintendent of public instruction.

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VII

DISCUSSION

BUSINESS MEN AND THE CLASSICS[1]

There is no one in the world so fiercely dogmatic as the apostle of change. With nothing save first principles to aid him, he is ready to outrage the accumulated wisdom of all the ages. He lives in an atmosphere of reckless experiment, and yet refuses to accept responsibility for the evil that he does. His ignorance is complete and invincible; his pride matches his ignorance. For him, whatever is is wrong, and so little respect does he cherish for the past that he thinks himself competent to devise a hundred schemes for the regeneration of the race.

It is not often that we are fortunate enough to see the beginning and end of a loudly trumpeted reform. That good fortune is ours today. During the last few years the humanities have been assailed in France with peculiar bitterness. That light-witted country, whose custom it is to question all things, to proceed gaily from false premises to a logical conclusion, has succeeded at last in the practical suppression of the dead languages. In her *lycées* and universities she has resolved to teach nothing that will not be of use to her pupils in their future career. The formula is perfectly familiar to us. We may now measure the havoc that has been wrought by its parrot-like repetition.

MEMORY NOT THOUGHT

In obedience to popular clamor, the professors of France resolved to replace the literary education, which had held sway for centuries, by a study of exact science. They kept sternly in view the demands of counting-house and workshop. We will not train the boy's mind, said they; we will pack his

[1] From the *Daily mail* (London)

brain with useful facts. He shall not think; he shall remember. Strictly cut off from a knowledge of the past, he shall live solely in the present. Thus there will be no waste of force. A full pocket shall reward his industry, and if his head is empty of those general ideas which cumbered his father's, so much the better for him. He will get rich the more quickly.

A vain hope, which has not been realized. The abolition of the humanities in France has been followed by an ominous decay in the national intelligence. The utilitarian system of education, which was to increase tenfold the "efficiency" of France, has proved a disastrous failure. The calculating machine beloved today is no proper substitute for a thinking, sentient man. In the craft of letters the deficiency is the most conspicuous. After all, the humblest writer can not expect success without some knowledge of the instrument which he uses, and it is only thru the "dead languages" that we may arrive at an understanding of those which still live. Many years ago Matthew Arnold declared that the journeywork of literature was far better done in France than in England, and he attributed the superiority to the influence of Richelieu's famous academy. Alas! the influence of the academy, vastly overrated by Matthew Arnold, is today dead or dying; and the suppression of Latin and Greek has removed the last check which was laid upon the careless misuse of the French tongue. If we praise the journalism of modern Paris, we praise it as those who find a magnificence in the half-understood. French is not so stubborn a language as English. The novice may write it with a facility which looks at first sight as tho it were genuine. Ever since Voltaire revealed his method to an eager world, a set of stock phrases, *clichés* they call them, has been at the service of any one who can afford a fountain pen. Unfortunately, the mind, undisciplined by the study of Latin and Greek, does not understand the stock phrases which the fountain pen traces mechanically upon paper. Never was there so rash and careless a creature as the French journalist. Knowing no other speech than his own, he can not refrain from embellishing his

periods with Latin and English tags. He is equally persuaded that "Times is money," and that "Business ares business." There is never a year passes in which that mythical province Manu Militari does not fall a willing booty to his pen and ink. It is always his pleasure to "adjourn the Chamber, *sine die,* to the 16th instant."

WHERE SCIENCE HAS FAILED

It is here, indeed, that the French journalist is most painfully deficient. Knowing not Latin, which is the mother of French, he does not understand the origins and associations of the phrases he employs. It is not clear to him (how should it be?) that words, like ancient houses or the faces of men and women, are marked and scarred by their past history. The science which was to have saved his soul alive has not taught him to think or given him the rudiments of style. Reckless of analysis, he confuses his images with the abandonment of an Irishman. But there is the difference between his mixed metaphors and Irish "bulls." The humor of an Irish "bull" is always half-conscious. When Sir Boyle Roche said, "I smell a rat; I see it hurtle through the air; but I will nip it in the bud," it was a stroke of genius. He joyfully paraded his own extravagance. There was no pride in the French reporter who solemnly declared the other day that "Mme. Judic's talent was like a bottle of ink in which the scalpel must not be used too freely for fear of finding there only a pinch of cinders." That is the folly of an illiterate man who has never been taught to think or to see in words anything more than lifeless symbols.

But it is not the men of letters who denounce most bitterly the evil influence of "practical" education. It is the men of science, the engineers, the captains of industry. The makers of steel, the inspectors of mines, the chiefs of the medical schools, are uniting in a protest against the tyranny of science. They are discovering what they should have known from the beginning, that humane letters are the best training even for those who are destined to earn their bread in

a factory. Discipline of mind and a clear habit of thought are necessary in the counting-house as in the study; and when the chief of a vast steel works publicly petitions the Minister of Education to bring back the study of Latin and Greek into the schools, because without them he can not obtain efficient engineers, here is an argument for the classics which even those will understand who look no farther than "the boy's future career."

INADEQUATE MODERN LANGUAGES

It has been discovered, moreover, that the modern languages are no proper substitute for the ancient. The German and English taught in French schools are commercial and no more. They do not help those who study them to cultivate what gift of expression they may possess. They do no more than accentuate the onesidedness of modern education, and if the Minister of Public Education turn a deaf ear to those who petition him, the taste, the fancy, the sense of style, which have always been the peculiar glory of France, will survive only in the rare manifestations of genius.

Here, then, is a loud and eloquent warning for us all. France has made the experiment of "practical" education, and it has failed pitifully. At the very moment of France's failure our wiseacres are urging us to follow her dangerous example. That eminent apostle of culture, Mr. Andrew Carnegie, has told us that Greek is of no more use than Choctaw. His colleagues of the steel trade in France do not agree with him, and as they speak with the voice of experience, we prefer to place our trust in them. In the battle of intelligence the dry bones of arithmetic will be defeated always by the living force of the dead languages. He who would save his soul will assuredly lose it. And the sad ambition of learning to acquire wealth even in the classroom is doomed to disappointment. For once the pleasantest path is also the most profitable. To pass his youth in Arcady is the wisest preparation even for a metallurgist.

AN ENGLISHMAN

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VIII

REVIEWS

The training of teachers for secondary schools—By JOHN FRANKLIN BROWN. Macmillan Company, 1911. vi+335 p. $1.25.

The volume under consideration was prepared by one of the first group of teachers sent to Prussia under the auspices of the Carnegie Foundation as an exchange teacher in the secondary schools. It is a valuable and noteworthy contribution on a subject of great importance; if the system of interchange will give us similar documents in the future, the wisdom of the scheme which secures to the visiting teacher a prolonged and intimate intercourse with his German colleagues will be recognized thruout our teaching community.

Part I is devoted to an accurate report of how the secondary teacher in Germany is trained for his career. Two preliminary chapters on "The Prussian schools" and the "Certification of teachers in the higher schools" culminate in a translation of the governmental regulations of 1898; a historical comparison of these regulations with the earlier provisions reveals how the requirement exacted of the teachers has steadily grown more severe as to professional training, and how, in harmony with these demands, the authorities have advanced the professional standing of the teachers.

Chapters III, IV, and VI of Part I are the most important; they present at considerable length an account of the rise and efficiency of the Gymnasial Seminar which is at present the typical training school of the secondary teacher. Our author was fortunate enough to gain his knowledge of this institution at its fountain head; his assignment to the group of schools known as the Franckesche Stiftungen at Halle, brought him into touch with the originators of a great educa-

tional movement that has found universal acceptance thruout Germany. Fries, the present director at Halle, cooperated with Otto Frick, from whom went out "the impulse for the establishment of the Prussian gymnasial seminar." One might safely add, nowhere else has there been more continuous and successful effort to perfect in every detail the idea of professional training. In Mr. Brown's story of his personal relations with the teachers and students at this typical seminary, in his observations on the scholarship and pedagogic enthusiasm of this body of ideal teachers and candidates (p. 120-147) there is a compelling charm for those who appreciate the educational and social possibilities of such a system. In the most literal sense the ripe experience, the varied knowledge of the most talented instructors are lavished upon a succeeding generation of teachers. It would be idle to single out the details of the system here described; the narrative is aglow with justifiable admiration for the kind of professional spirit that is evolved under such leadership. For us who are apt to speak of German bureaucratic control in educational matters it is well to bear in mind that in this training of the Gymnasial Seminary freedom of initiative rests largely with the director of the seminary; it is he who determines the spirit of the teaching; the seminary reflects his personality; freedom in procedure is not only tolerated, but invited by the government officials.

To pass from Part I of this volume to the earlier chapters of Part II, dealing with American conditions, is like a voyage into outer darkness. The "Certification of the American secondary teacher"—what a tale of ineptitudes, of tampering with the most precious possession we have—the intellectual gifts of our children! Think of it, there is a *tendency* (Mr. Brown assures us) to differentiate between the training required of high school and elementary teachers, not too marked in some quarters! Connecticut school laws, for instance, demand that "the board of school visitors or town committee shall examine all candidates for teachers in high schools and give to those of satisfactory moral character,

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literary attainments and ability to teach a certificate, stating what branches they are capable of teaching"![1]

Like Mr. Brown, we must derive comfort that somewhere (in California at least) there is a standard of professional and academic qualifications insisted upon.

Nor is Chapter IX, "Who is responsible?" with its incisive analysis of the various kinds of responsibility for our lamentable training conditions a very inspiriting tale; school—state—and college—authorities, who is most at fault?

All the more commendable is the constructive criticism that Mr. Brown offers us in Chapter XI, "A plan for providing the desired training"; it is not utopian; it is distinctly within the capacities of our college and supervisory systems. But it can be carried out only if we become convinced, as Germany has been convinced, that teachers become efficient under the conscientious guidance of those who are recognized as good teachers; when once the profession as such requires that a new generation of teachers shall surpass in knowledge and in teaching skill its predecessors, we shall be likely to bridge the gap between the German and the American secondary teacher.

JULIUS SACHS

TEACHERS COLLEGE
COLUMBIA UNIVERSITY

Crystals—By A. E. H. TUTTON, D.Sc., M.A., F.R.S. London: Kegan Paul, Trench, Trübner & Co., Ltd., 1911. 301 pp. 120 illus. 5s.

The task assigned Dr. Tutton was to produce a "generally readable book on crystals," or, as the preface states, the underlying idea was "to present the phenomena of crystallography to the general reading public in a manner which can be comprehended by all."

In substance the book is an amplification of a lecture given before the British Association at Winnipeg in 1909, and is

[1] And in Rhode Island, says the State Commissioner, "there are no state legal requirements for high school teachers different from that (!) of elementary school teachers."

particularly interesting, not only as an attempt to describe the development of the science, but also on account of the detailed descriptions of many experimental illustrations.

Starting with a discussion of the way in which differences in crystal habit prevented the early investigators from discovering the underlying laws of constancy of angles and of symmetry, the author briefly considers the work of Romé de l'Isle and the still more important studies of Abbé Haüy, and then devotes three chapters to the present methods of classifying and describing crystals. Some of the comparisons are very happy, for instance, that of the crystal systems to styles of crystal architecture and of crystal classes to thirty-two architectural plans conformably to which all crystals are built. The old idea that crystals were holohedral, hemihedral, or tetartohedral as the possible faces are all present, one-half suppress or three-quarters suppress, is justly condemned as "arbitrary" and "without any truly scientific basis," and yet to the writer there is a somewhat similar retention of misleading terms, such as "full symmetry of a system" which is "reduced to a certain minimum without lowering the system." Why is it necessary to speak of the symmetry of the "system" when that of one of its classes is really meant?

But as the author states, the "mathematical and geometrical side of crystallography has been unduly emphasized," and he passes to a consideration of that part of crystallography which deals with the structure of the crystal and the connection between chemical composition and crystalline form. Starting with the discoveries of isomorphism and dimorphism by Mitscherlich, he considers von Groth's broader view of morphotropy as distinct from isomorphism; reviews the Bravais space lattice, the 65 Sohncke point system and the Schönflies mirror image symmetry by which the number of possible arrangements of points in space, in accordance with the laws of crystals, was finally brought up to 230, all falling in the accepted 32 classes of symmetry. In this he points out that the long accepted idea that the "physical molecule"

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is larger and more complex than the chemical molecule is, so far as experimental evidence goes, a myth.

The author then considers at length the results which are based chiefly upon his own investigations in which he devised and used instruments of great accuracy and delicacy. As a result he reconciles the views of Haüy and Mitscherlich that each definite chemical compound has its specific crystalline angles and forms and that analogous chemical compounds can replace each other without apparent change of crystalline form, by showing that in the so-called "isomorphous" compounds there are real tho slight differences in angle not noticeable with the facilities of Mitscherlich, and that these angles *and all other properties* of the crystals of an isomorphous series are functions of the atomic weights of the interchangeable elements.

Chapter XI explains the present view as to polymorphism (different positions of equilibrium in the arrangement of the atoms, each most stable at its own particular temperature), and also the relation between enantiomorphism and optical activity.

Three chapters are devoted to the effect of crystals on light, and are chiefly descriptions of very beautiful experiments with convergent and parallel polarized light upon quartz, gypsum, and calcite.

Chapters XV and XVI are exceedingly interesting discussions of two of the least understood groups of crystal phenomena. In the former, designated "How a crystal grows from a solution," the beautiful experiments of Miers are described, showing that at the saturation point a previously shaken solution will yield a small crop of crystals usually well formed *if there is inoculation from the atmosphere of minute crystallites* either of the same substance or an isomorphous substance or one capable of parallel growth, but if there is no such inoculation as in case of a sealed tube, or in an open vessel if some rare substance not in the atmosphere is used, no crystals will form until a period of supersaturation some ten degrees cooler is reached when spontaneous crystal-

lization will take place. In the latter chapter the wonderful borderland "structures" called liquid crystals by Lehmann, which, while true liquids, show double refraction, optical axes and some other evidences of an arrangement of molecules are discust.

The work is to be recommended to all those who are interested in the laws and phenomena which have been discovered in a little over a century in that highest development of inorganic nature, the crystal. To the teacher of crystallography its value lies largely in its descriptions of beautiful experiments for the lecture room.

A. J. Moses

Columbia University

The educational meaning of manual arts and industries—By Robert Keable Row. Chicago: Row, Peterson & Co., 1910. 248 p. $1.25.

The object of the book is given by the author in his preface, "The most vitally important and far-reaching educational movement of our time is that which aims to introduce all along the line, from the lowest primary school to the senior college class, appropriate works in various kinds of manual arts and industries, including manual training, household arts, domestic science, agriculture, and the like. And yet, when one wishes to know the reasons for the movement he looks in vain for an organized treatment of the subject. In a hundred books and magazines one may find much that is valuable on this or that phase of the subject, but nowhere an attempt to relate these different aspects in a unified view. These conditions account for this book."

Mr. Row shows that the recognition of the value of the manual arts and industries has been a gradual evolution, the beginning of which occurred at least 400 years ago, but that the early interest was vocational in its bearing. The present interest is much more general and educational. Education is understood as "the process of organizing experience in such a way as to develop appreciation and conservation of things of most value in the life of the individual and society."

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This appreciation and conservation must grow out of the nature of the individual. The nature of the young child being sensory and motor, rather than reflective, the process of education must begin by developing, using, and directing these impulses and interests. The manual arts and industries offer some of the best available material for this purpose. Not only children of the working classes and subnormal children, but all children need this training because it satisfies a need in the nature of all children. Of course this means that the training, at least in the elementary schools, should not be vocational or industrial in character, but that specialization in this field should begin about the same time that it does in the more intellectual branches. Not only does this work offer opportunity for a more general, all round development for all children, but it also offers another field in which specialization by both the children of the working classes and the motor-minded child is particularly desirable.

The book is written in a popular, rather than a scientific, style, but the basic principles of psychology and pedagogy are sound. Chapters V and VI, which deal with the development of motor control, give the significant results of some experimental work. Those interested in the problem of teaching children to write will find these chapters especially suggestive. Some general suggestions as to method and outlines of courses of study in various branches of manual arts for elementary, high, and rural schools are also contained in the book.

The book is well worth reading by all teachers, but especially by those who are teaching handwork, and who are interested in making it truly educational in value. The author avoids the error of claiming everything for his field, and yet presents his facts in such a way that the reader is forced to recognize the vital need of a broad education along this line of work, and that for all children.

NAOMI NORSWORTHY

TEACHERS COLLEGE
COLUMBIA UNIVERSITY

Play—By EMMETT D. ANGELL. Boston: Little, Brown & Company, 1910. 190 p. $1.50.

A vast literature on physical training has appeared in the last decade, and recently several books have been issued relating to games and play. The latest of these, written by Professor Emmett D. Angell, contains a treatise with a manual and a classification of games.

Under the topic, *The value of play,* Professor Angell presents the proposition that a complete history of play would be a history of the race. In support of this surprizing and apparently extreme theory, he cites the following now familiar facts:

Play is an animal and therefore a human, instinct. Childhood tends to repeat the history of the race, in its games. Early educational advancement demands activity and play. Play is indispensable to normal maturity. He further cites the intellectual superiority of Greece, Germany, and England and argues from their history that the very best things in national life result largely from the competitive activities of the stadium and from the free play of youth. This argument, if accepted, logically shows why we seem to see the whole world at play. Men, women, and children are abroad. All play the games of primitive life, staid men become *fans* and *rooters,* and spend fabulous sums in support of a reconstructed and extended theory of life.

In the main, the average supporter of the new education can agree with the conclusions exprest or implied by Professor Angell. It is evident that play is generally indorsed and recognized as a potent educational factor and as a moral instrument and force. This volume advocates the mission and the gospel of play. The author is not, perhaps, called upon to discuss educational values, and so we recognize his privilege. The ardent admirer of the purely intellectual and classical régime will surely and properly call us to account. And so the sober and honest student of the subject should read into this chapter the missing and more formal elements essential to the preservation of a healthy balance of the physical and so-called intellectual phases of education.

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The author's views on the relation of play to gymnastics will, I believe, be received with practically unanimous approval in this country. He sharply contrasts the recreative and so-called educational values of play. Many of our leading training schools for physical culture have long been under an almost hypnotic spell, dominated by the Swedish, German, and other "systems." Professor Angell forcibly asks why any expert teacher of physical training should be governed by a *system* any more than a teacher of reading, of history, or of mathematics. The statement is boldly put forth that organized, supervised play is superior to any system and all systems. This contention is tacitly supported by such specialists as Professor Mark Baldwin and Professor Horne, who in their exhaustive analyses scarcely refer to these much exploited systems.

Reference is made very properly to the English practise in physical development, which has always been chiefly informal in its character, at least in the universities and great fitting schools. In America, the leaders in the extension of the playground movement, the summer vacation school, and social center have without hesitation or argument declared for free play under supervision, At the recent meeting of the National Playground Association at Rochester, N. Y., this view was sustained both from the platform and thru the endless variety of games presented by hundreds of children. Gymnastics, as such, was not seriously considered as a part of the six days' program. Thus the drift of the playground, the laboratory, and public sentiment seems to be unmistakably toward the theory presented by the author of *Play*.

The section on the equipment of playgrounds is admirable, and the illustrations will be of great value to those using the volume. Especially to the point is the statement that the playground should be arranged for convenience and effectiveness and not for the purpose of making an impression upon spectators.

It would be of assistance to the average reader practically interested in any local playground movement, if a supplement could be added to the volume, giving lists of standard appa-

ratus necessary for the equipment of playgrounds, with prices added. There might also be added a cut of each piece of apparatus with dimensions that would assist in equipping small playgrounds and in constructing home-made apparatus.

The chapter on the "Playground" director tells its own story in excellent form. It is no exaggeration to say that the director acts as a moral guide to the multitude, that he is the friend of youth and that they welcome him as assuring fair play. In his fine introduction, Professor O'Shea says, on this point, that the competitive element of fair play comes to the city boy, and that lawless combat, and we may add, unlimited brutality, are banished from childhood, thru the instrumentality of this new, unnamed, unlicensed, and modest official.

Professor Angell has a right to be optimistic. One state already requires playgrounds in larger towns and cities. Every city of any educational standing has its story of the growth of the playground sentiment. Often the city council and park board vie with the playground association in promoting opportunities for free and supervised play. A playground for every school building and for every child is the slogan, and no intelligent taxpayer is so foolhardy as to question the moral value and the economy of the movement.

The classification of games has been pronounced "convenient and comprehensive" and the directions are said to be "simply and clearly stated," by a well known expert to whom the writer of this review has referred this item.

CLARENCE F. CARROLL

ROCHESTER, N. Y.

Business is rapidly making for itself a literature. One would hardly think so much could be written of a thoroly practical character on the subject of *Property insurance* as is contained in a book with that title from the pen of Dr. Huebner of the University of Pennsylvania. This is distinctly a good book for business men to read in order to understand the intricacies of insurance practise. (New York: D. Appleton & Co., 1911. 420 p. $2.00.)

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The Commercial Club of Chicago, which has done so much for matters of public interest, and particularly for education, has been well advised to bring out in a handsomely printed English translation the prize essay, *Education for citizenship,* by Dr. Georg Kerschensteiner of Munich. The book was heartily received on its first appearance in Germany, and it offers a program of great wisdom, and it calls for genuine educational statesmanship in its execution. (Chicago: Rand McNally Company, 1911. 133 p. 75c.)

The latest addition to the Educational Monographs is a very excellent little volume on *The recitation,* by Professor George H. Betts of Cornell College, Iowa. (Boston: Houghton Mifflin Company, 1911. 120 p. 60c.)

We are glad to commend a little textbook entitled *Second course in algebra,* brought out by Professor Hawkes of Columbia University, with the cooperation of Messrs. Luby and Touton of the Central High School in Kansas City. The treatment of progressions, logarithms, and imaginaries is particularly satisfactory. (Boston: Ginn & Co., 1911. 262 p. 75c.)

Every time that Professor Gilbert Murray publishes any of his translations from the Greek drama, one wishes to rejoice once more—first, that there was a Greek drama, and second, that Professor Murray is minded to translate it. He not only preserves an ancient classic, but he gives it to us in modern classical form. His newly made rendering of *Oedipus* is satisfying to a degree, whether judged as to scholarship or literature. (New York: Oxford University Press, American Branch, 1911. 92 p. 75c.)

From the same publishers we have just received *Drei Wochen in Deutschland,* by Professor Savory of the University of Belfast, an admirable reading book which will give much pleasure. (New York: Oxford University Press, American Branch, 1911. 191 p. 60c.)

We expect an outburst of rage at the volume entitled *A textbook of true temperance,* and particularly at its publishers. This is because numerous well-intentioned people confound

temperance with the intemperance of abstinence. It may be sound doctrine to preach abstinence from beers, wines, and liquors, but it is something more than a verbal infelicity to call this abstinence temperance. (New York: United States Brewers Association, 1911.)

A very practical textbook is *Essentials of Spanish grammar,* by Professor Samuel Garner, formerly of the United States Naval Academy at Annapolis. The book is well arranged and compact. One notices the absence of irrelevant material. (New York: The American Book Company, 1911. 232 p. $1.00.)

A very carefully made language book that shows on every page the marks of thought and good judgment is *Sprachlehre für die Kinder des Volkes,* by Hermann Itschner. In many respects the author goes away from old forms and formulas. (Leipsic: Quelle & Meyer, 1911. 148 p. 3M.)

Professor Rufus B. Richardson, whose long service at the American School of Classical Studies at Athens gave him unusual facilities for study, has prepared an admirable and beautifully illustrated *History of Greek sculpture* that is a delight to read. (New York: The American Book Company, 1911. 291 p. $1.50.)

We are skeptic about the ability to "teach" poetry, and, therefore, the little volume entitled *Teaching poetry in the grades,* by the Misses Haliburton and Smith, does not impress us favorably. Poetry is to be read, enjoyed, and learned. We do not believe in any true sense of the word that it can be "taught." (Boston: Houghton Mifflin Company, 1911. 166 p. 60c.)

We welcome two very effective philosophical studies in Friedrich Paulsen's *Philosophischer Standpunkt,* by Dr. Paul Fritsch, and Gourd's *Philosophisches System,* by Dr. Bockwitz. Both are examples of careful study and writing, and they may well serve as excellent introductions to the study of the works of Paulsen and of Gourd. (Leipsic: Quelle & Meyer, 1911. 43, 120 p.)

One feels strongly that many fundamental political problems are worldwide when he reads *Legislature and judiciary,*

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a brief but incisive study of this subject by Lord Shaw of Dunfermline, a member of Great Britain's greatest court. (London: University of London Press, 1911. 80 p.)

Mr. Charles Buxton Going, the well-known editor of the *Engineering magazine,* has written a thoroly wise and practical book on *Principles of industrial engineering.* Mr. Going has no difficulty in demonstrating that there is something to learn about industrial management other than that which is picked up by rule of thumb. Business men and corporation officers will find this book of exceeding value in clarifying their own ideas and improving their practical methods. (New York: McGraw-Hill Book Company, 1911. 175 p. $2.00.)

President L. H. Jones, who, after a long career as teacher, city superintendent, and principal of a state normal school, is soon to retire from active service, has brought together in a little volume, with the title *Education as growth,* a series of papers on the fundamental aspects of the educational process. Mr. Jones has been brought up in a sound school of philosophy, and has learned the value of that philosophy in the experience of his professional life. His book may be commended as well worth reading for the wisdom and sobriety of its methods as well as for the security of the philosophical foundation on which it rests. (Boston: Ginn & Company, 1911. 275 p. $1.25.)

A sample of a useless sort of book on education is afforded by W. Franklin Jones, of the Maryland State Normal School, in his volume entitled *Principles of education.* This book is as far from dealing with real principles as one could well imagine. It is a superficial treatment of some things that are well known and true, and of other things that are well known and not so true. (New York: The Macmillan Company, 1911. 289 p. $1.10.)

In a new series of publications entitled Educational Psychology Monographs, we have received two issues, namely, *Spelling efficiency,* by Dr. Wallace Wallin, and *When should a child begin school?* by W. H. Winch. Neither book calls

for extended comment. (Baltimore: Warwick & York, 1911. 91, 96 p.)

Even a book reviewer with long experience in reading books of every sort and type can not help asking why it was thought worth while to publish *The future citizen,* by F. A. Meyers. It is a curious collection, without method, of individual impressions, prejudices, and quasi-reflections. (Boston: Sherman, French & Company, 1911. 190 p. $1.20.)

For the general reader who wishes to gain an accurate idea of the present status of scientific beliefs as to evolution, no book yet published will be found so useful as *The doctrine of evolution,* by Professor Henry E. Crampton, of Columbia University. Professor Crampton's book consists of the lectures which he delivered at Cooper Union as Hewitt Lecturer in 1907. These lectures have been carefully revised and brought down to date. They present in simple and attractive style fields of the most recent scholarship in the study of the evolutionary process. Professor Crampton's illustrations and analogies are happily chosen, and help fix the point of his argument. (New York: Columbia University Press, 1911. 310 p. $1.50.)

A careful and thoughtful series of essays in the field of theology is *The volitional element in knowledge and belief,* by Professor Grover, of Scio College. The book is dedicated to the late Borden P. Bowne, and shows the marks of his influence. (Boston: Sherman, French & Company, 1911. 167 p. $1.20.)

A new general textbook of psychology, which reminds one of Sully's book a generation ago, is that entitled *The essentials of psychology,* by Professor Pillsbury, of the University of Michigan. (New York: The Macmillan Company, 1911. 362 p. $1.25.)

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IX

NOTES AND NEWS

That Paid Board of Education in New York

Certain persistent and mischievous, if unrepresentative and grotesque, elements in the vast population of New York conceived the notion of a paid board of education for the metropolis, with the distinct purposes of getting comfortable and conspicuous positions for some of themselves and of putting a check upon the splendid reforms and high standards of efficiency which have made the superintendency of Dr. Maxwell forever memorable in the history of American education. Unfortunately, they gained the ear of so well-meaning a man as Mayor Gaynor and committed him to their schemes to an extent that makes all argument wholly ineffective.

The course of events has proved that there is nothing whatever to be said in favor of a paid board of education by anybody, and that every important educational authority in the country is in opposition. For the sake of the record, we wish the readers of this REVIEW to have before them the incisive and convincing letter which that veteran observer and student of educational administration, Mr. C. W. Bardeen of Syracuse, N. Y., addrest to the president of the Public Education Association of New York. Here it is:

"The provisions of the proposed New York City charter in regard to education are so preposterous, so in contradiction with the progress in administration during the past fifty years, that I can not refrain from offering my protest with the many that must have come to you.

"If there be any single particular in which public opinion has undergone a change more marked than another, it is an appreciation of the necessity of trained and expert supervision. Fifty years ago the superintendent was little more than clerk of

the board of education. As the place was filled with stronger and stronger men it became recognized that the affairs of schools were better administered by men who gave their entire time to the subject than by those who devoted a few leisure hours each week. Accordingly, more attention was given to the choosing of superintendents. Instead of appointing local men who had political influence, the country was searched for men who had demonstrated their fitness. Eventually, schools of preparation grew up and training became demanded, until now no large city would think of employing a superintendent except upon the basis of training and experience.

" This has been particularly true in New York City, where the problems are more complex, the figures are greater than elsewhere, and the responsibility is immense. The present board of superintendents in New York is made up of men chosen from the entire country, who have risen thru grades of long experience and have become familiar with the conditions in that great city and with the best means to meet them, as no other body of men, even if equally qualified, could become in years.

" The only object of the paid board of education, as the proposed provisions show, is to substitute its authority for the authority now vested in the superintendents; in other words, to substitute the amateur for the expert; the theorist for the man who has tried; the lawyer, the merchant, the physician, for men who have had equally long and severe training in the business of teaching. Mayor Gaynor would not think of proposing a judiciary board made up of leading public men who should dictate to the supreme court judge what his decisions should be, and yet the superintendents of New York are quite as expert in their subject and chosen quite as carefully as the justices of the supreme bench.

" When one considers the enormous problems which have confronted the education department in New York, problems many of them peculiar to that cosmopolitan city and continually changing as the statistics of immigration vary, it is a matter of wonder that it has succeeded so well. It must be attributed to the fact that so many able and expert men have

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been brought together and given authority to counsel together. To put over these men a board chosen at large from citizens of the community able in their own professions—all of them probably with untried and only one-sided theories of their own to exploit, would be to substitute the amateur for the professional. It would be like asking a high school teacher of physics to run the Empire Express to Buffalo.

" Without dwelling on the many minor features of the bill which are objectionable, I want to protest against this fundamental blunder, and to plead for the further development of the present system of school administration in New York City, the efficiency of which is one of the marvels of this generation.

Yours truly,

C. W. BARDEEN "

At the most distinguished celebration, September 12-15, of the quincentenary of the founding of the University of St. Andrews, 15 honorary degrees of Doctor of Divinity and 89 honorary degrees of Doctor of Laws were conferred upon a very representative list of publicists, scholars, and men of letters. The Americans who were honored—four in all—were Dr. W. W. Keen, of Jefferson Medical College, Philadelphia; Professor Elmer T. Merrill, of the University of Chicago; Dr. Charles S. Minot, of the Harvard Medical School; and Professor Josiah Royce, of Harvard University.

" It seems to us that the N. E. A. is coming to be too much like the D. A. R."—*The Independent.*